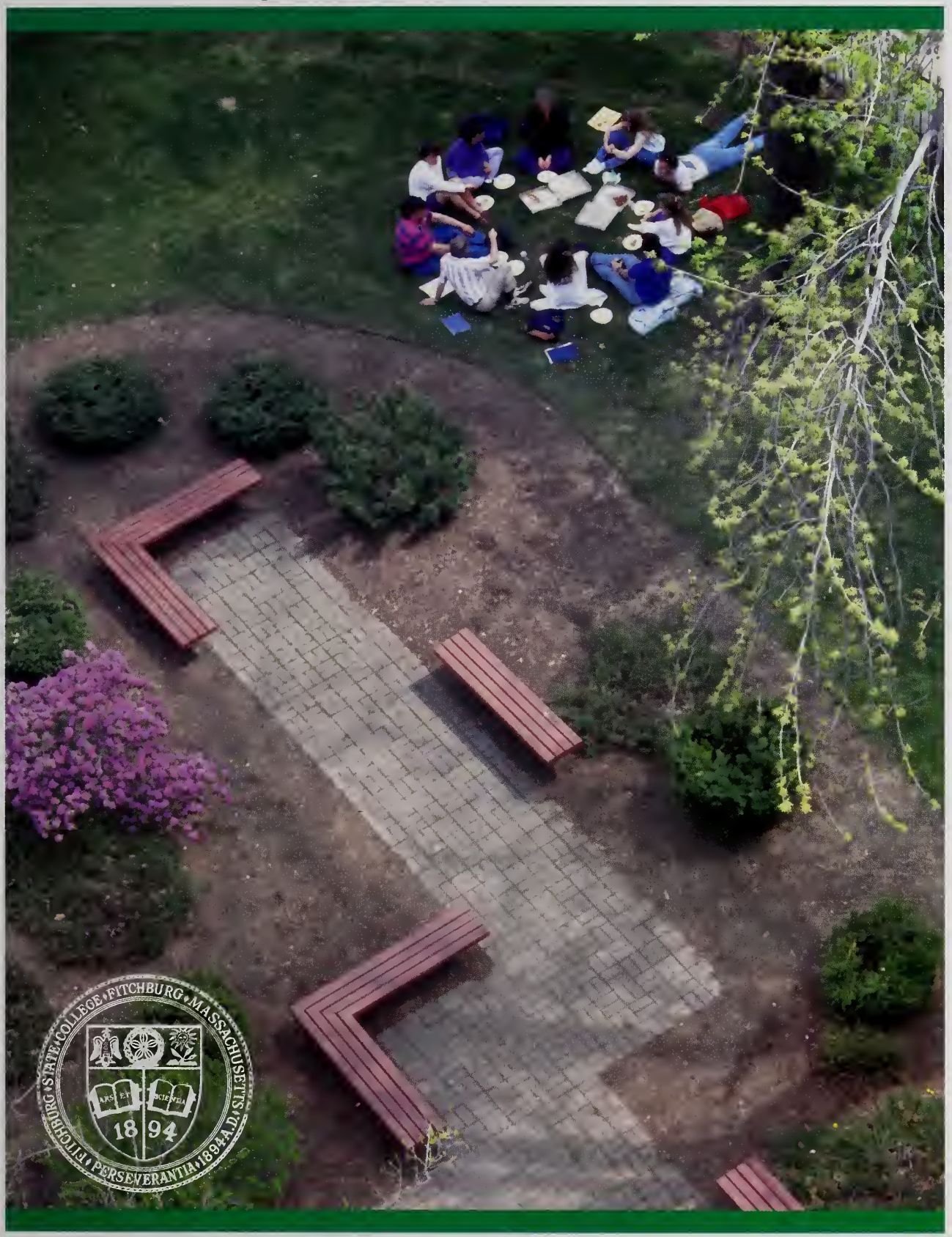
Fitchburg State College

Undergraduate & Graduate Course Catalog 2000–2001



Fitchburg State College

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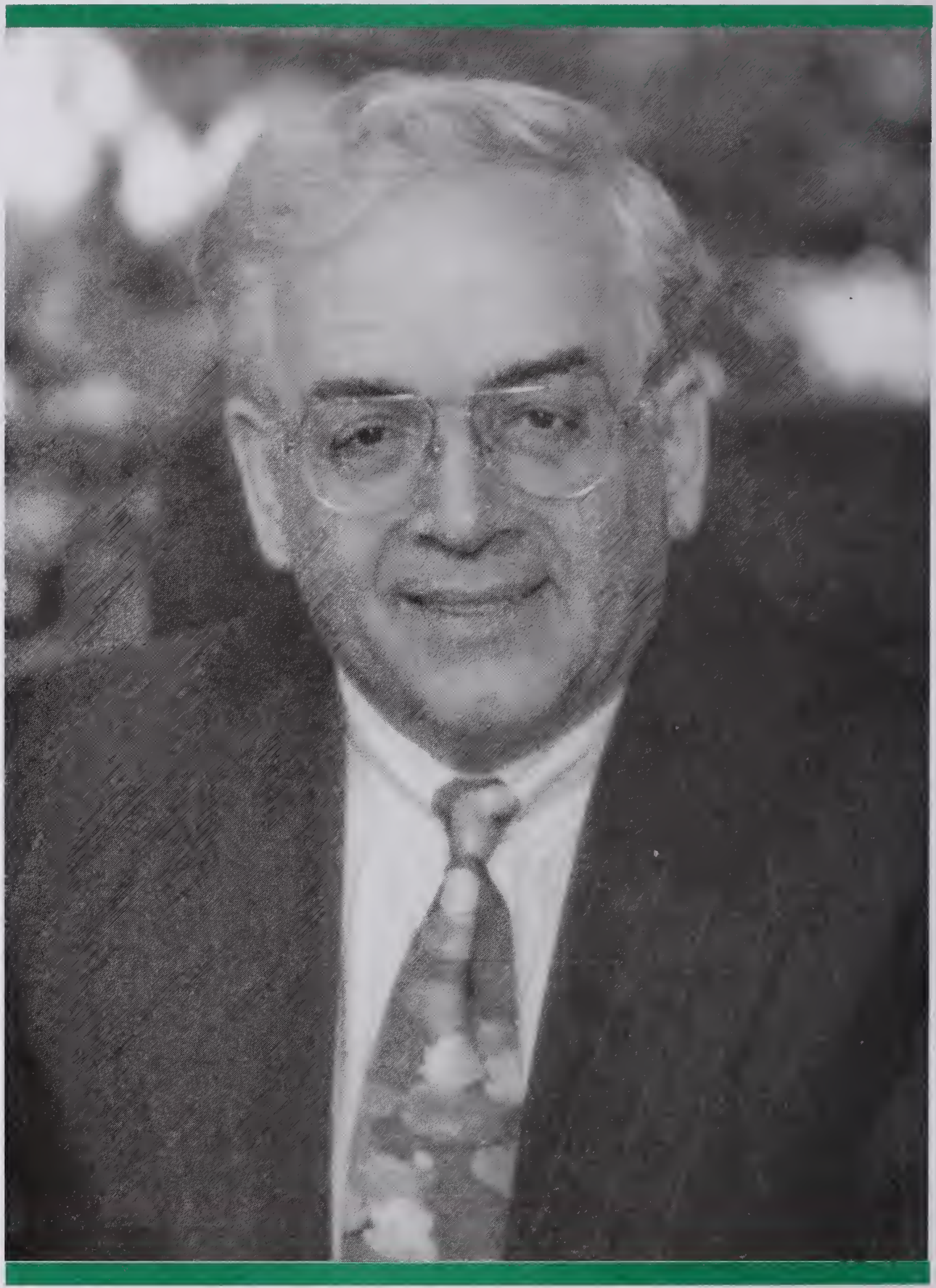
2000–2001

To the College Community



On behalf of the college community, it is my pleasure to welcome you to Fitchburg State—"The Leadership College." For more than a century, this institution has provided high quality educational opportunities to the people of the Commonwealth. Today, the college is a comprehensive public institution with a long history of growth and a clear record of accomplishment.

Several recent initiatives continue that tradition: the new Leadership Academy and related campus-wide programs, an extensive merit scholarship program, a guarantee to employers, and one of the few structured three-year bachelor's degree programs. An extensive $2.75 million computer upgrade now links the entire campus, and a $12 million recreation center will open September, 2000.

More important than any program or project, however, is our central academic mission. Our teaching faculty is deeply involved in the success of our students, and committed to learning in its broadest sense. They are dedicated to general as well as specialized knowledge in their fields, to ongoing professional development, and to maintaining a link between the worlds of scholarship and practical experience.

All of us on campus are honored to play a role in creating the kind of supportive environment that fosters growth and discovery, which lie at the heart of the learning experience.

Michael P. Riccards
President

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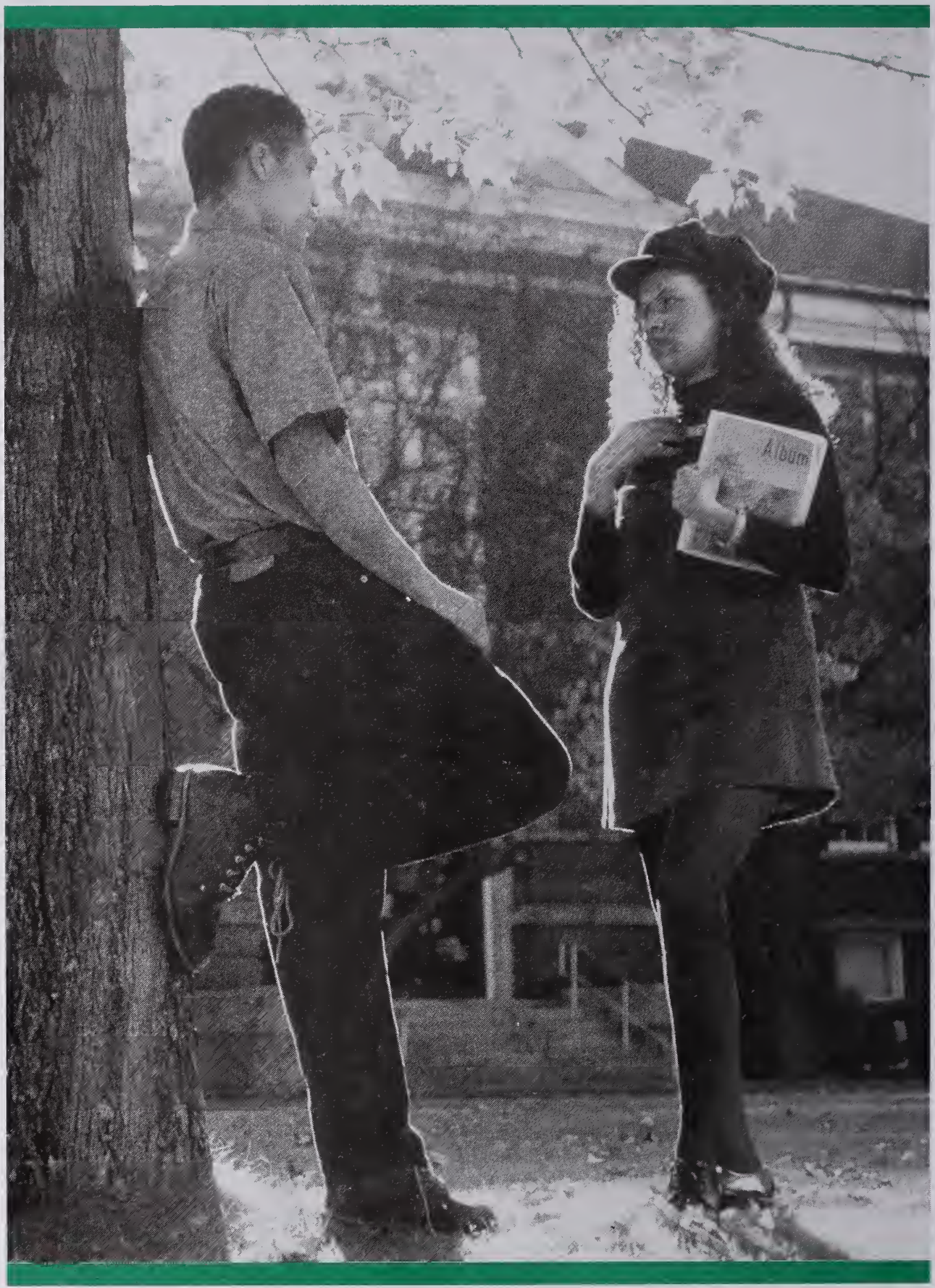
About the College



History of the College

Established in 1894 by an act of the Massachusetts Legislature, the State Normal School in Fitchburg opened in temporary quarters in the old high school building on Academy Street. Principal John G. Thompson, aided by a teaching staff of three, implemented a two-year teacher training program for women that had forty-six participants. In December 1896, the school expanded into a new building, known as Thompson Hall, and set up the State Schools of Observation and Practice in city buildings on Day Street and Highland Avenue.

In the next decade the school was a trendsetter for programs in Education. The Edgerly School opened, originally as an eighth-grade model and practice school, and then in 1910, it became one of the first junior high schools in the United States. The following year the school initiated the first practical arts teacher training course in the country for men.

In 1930, the State Normal School was authorized to offer a bachelor's degree in practical arts, and in 1932, when it became the State Teachers College at Fitchburg, four-year degrees were offered in all areas of education.

Under the auspices of the State Division of University Extension summer courses were first offered in 1915, marking the beginning of the college's commitment to Continuing Education programs. In 1935, the college was also authorized to establish graduate programs and in 1954 the first evening courses were offered.

In 1960, the college changed its name and expanded its mission. The State College at Fitchburg diversified its programs to include degrees in disciplines other than education. In 1965, its name was officially changed to Fitchburg State College, which today offers forty-nine undergraduate degree programs in eighteen academic departments, twenty Master's Degree programs, five Certificate of Advanced Graduate Study programs, and seven Graduate Certificate programs. Enrollment is up to 2,800 full-time and 4,000 part-time students which include 1,100 matriculated graduate students. The campus has expanded from a single structure on High Street to thirty-two buildings on ninety acres, becoming the educational center for the Montachusett region. The college proudly offers traditional and non-traditional programs to serve the educational needs of its students as undergraduate, graduate, and continuing education students.

State College Mission Statement

There are six comprehensive state colleges—Bridgewater State College, Fitchburg State College, Framingham State College, Salem State College, Westfield State College and Worcester State College—and three specialized colleges—Massachusetts College of Art, Massachusetts College of Liberal Arts and Massachusetts Maritime Academy. All colleges integrate liberal arts and sciences programs with professional education, and the three specialized colleges also focus on academic areas identified in the college's name.

Each college places a special emphasis on teaching and lifelong learning and promotes a campus life that fosters intellectual, social and ethical development. Committed to excellence in instruction and to providing responsive, innovative and educational programs of high quality, they seek to develop each student's critical thinking, quantitative, technological, oral and written communications skills and practical appreciation of the arts, sciences and humanities as they affect good citizenship and an improved quality of life. The state colleges provide a campus environment where the ideas, values, perspectives and contributions of all students are respected.

Massachusetts state colleges are strategically located to facilitate access to baccalaureate and master's degree programs for Commonwealth residents who meet their high standards for admission. In recognition of their responsibilities to Massachusetts taxpayers to manage their resources efficiently and to maintain tuition and fees at a level as low as possible, each college has a distinctive academic focus based upon its established strengths and regional and state needs. Each college is a leader and resource for the community and contributes to the region's cultural, environmental and economic development.

Mission

Fitchburg State College is an institution of higher education that integrates an interdisciplinary, multicultural liberal arts and sciences core with all professional and arts and sciences majors.

In 1997, the Board of Higher Education designated the college as the site of the Leadership Academy. The college emphasizes the importance of leadership studies, service learning, civic responsibilities, ethical development, and international education. Thus, it is this central theme that animates our mission statement: the establishment of a leadership honors program, extensive course work and extracurricular emphasis, and a commitment to exploring leadership for the twenty-first century.

In the process, the college encourages the development of the whole person and prepares students for careers that meet the needs of their varied communities. Our faculty members are scholar-teachers who employ a variety of pedagogies and modes of technological instruction to further such goals for all.

In addition, this comprehensive public college is committed to providing affordable, life-long learning opportunities in undergraduate, graduate, and continuing education. Lastly, Fitchburg State College is extensively involved in promoting sound economic development, especially in the Northern Worcester County Area.

Fitchburg State College's mission strives to:

- Integrate high-quality professional programs with strong liberal arts and sciences studies
- Promote, facilitate, and model self-reliant learning within a cooperative framework
- Stress high standards of academic, professional, and societal performance
- Provide opportunities for social and academic success to enhance self-esteem
- Foster excellence in teaching, service, and research
- Provide library resources and services necessary to support the current and anticipated academic needs of the college
- Promote an atmosphere of collegiality, openness to ideas, and esprit de corps
- Support faculty and administrators with professional development opportunities
- Respond in an affirmative and creative manner to the changing character of society
- Develop a global perspective through international exchanges and programs
- Meet social, economic, technological, and environmental changes
- Support racial, cultural, and ethnic diversity in the college community
- Maintain a healthy, safe, and aesthetic living and learning environment sensitive to local and global concerns

Fitchburg State College seeks to achieve its mission through:

Mutually supportive strong Liberal Arts and Sciences professional majors:

- Offering a liberal foundation that encourages multicultural and interdisciplinary courses
- Focusing on modes of inquiry within each discipline to strengthen critical thinking skills
- Providing extensive field experiences that bring together theory and practice
- Integrating technological development across the curriculum
- Educating students for participation in the world community at both the undergraduate and graduate level through academic and experiential opportunities
- Supporting undergraduate majors that complement graduate programs that, in turn, build on the strengths of the undergraduate offerings

A student-centered environment:

- Emphasizing creative teaching and active learning
- Providing learning experiences where students come together to challenge one another's ideas in an environment of mutual respect
- Responding to the intellectual, cultural, social, physical, and recreational needs of the residential and commuting populations
- Providing support for students, including an academic advising center, computer facilities, a freshmen readiness program, developmental skills and ESL programs, peer advising, tutorials, counseling, as well as health services
- Offering appropriate services for students with physical and learning disabilities

Commitment to the welfare of the larger community and region that it serves with:

- Collaborative efforts with school districts, the health care community, social service agencies, the business community, and higher educational institutions, particularly community colleges
- Programs for disadvantaged and gifted students, both outreach and on-campus
- Cultural events and activities that enrich the life of the community
- Faculty, administration, and student participation in community programs
- Tuition and fees that are within reach of people with moderate economic means

Undergraduate Day School Academic Calendar 2000–2001

Fall 2000

September

2	Saturday	Residence halls open for all new students 9:00 am
3	Sunday	Residence halls open for all students
5	Tuesday	President's address to faculty 10:00 am followed by department meetings and student advising Freshman Convocation 1:30 pm
6	Wednesday	Classes begin 8:00 am
12	Tuesday	Final day to drop a course
13	Wednesday	Final day to add a course

October

6	Friday	Final day for making up Incomplete Grades from previous semester
9	Monday	Columbus Day—NO CLASSES

November

1	Wednesday	Final day for withdrawal from classes without penalty
10	Friday	Veterans' Day—NO CLASSES
22	Wednesday	Thanksgiving recess begins 4:45 pm
26	Sunday	Thanksgiving recess ends

December

12	Wednesday	Last day of fall semester classes
13	Thursday	Reading Day
14–22		Final Semester Examinations

Spring 2001

January

15	Monday	Martin Luther King Day—NO CLASSES
16	Tuesday	College opens Residence halls open for all students 10:00 am Departmental meetings and student advising
17	Wednesday	Classes begin 8:00 am
23	Tuesday	Final day to drop a course
24	Wednesday	Final day to add a course

February

16	Friday	Final day for making up Incomplete Grades from the previous semester
19	Monday	U.S. Presidents' Day—NO CLASSES

March

9	Friday	Spring vacation begins 4:45 pm
18	Sunday	Spring vacation ends
21	Wednesday	Final day for withdrawal from classes without penalty

April

16	Monday	Patriots' Day—NO CLASSES
19	Thursday	Honors Convocation afternoon classes suspended 1:30 pm

May

7	Monday	Last day of Spring Semester classes
8	Tuesday	Reading Day
9–16		Final Semester Examinations
24	Thursday	Commencement 6:00 pm—Campus Quadrangle

Calendar Subject to Change

Graduate and Continuing Education Academic Calendar 2000–2001

Fall 2000

July

3–31	Walk-in/Mail-in/Phone-in/Fax-in Registration for 2000 Fall Semester Sanders Administration Building 9:00 am–7:00 pm Mon.–Thurs. 9:00 am–4:00 pm Fri. To register by phone, call 978-665-3181 (MasterCard and VISA ONLY. Charge must be over $50.00) Fax number is 978-665-3658

August

1–17	Registration (cont.)
18	Late Registration begins. Registrations and course changes accepted prior to the second class meeting. (Class meeting defined as 2.5 hours)

September

6	First day of classes

October

6	Final date for making up Incomplete Grades from previous semester. (spring and summer 2000)
9	Columbus Day—NO CLASSES

November

Nov 6–10	Graduate Students meet with Advisor for spring 2001 course approvals. (Degree candidates and applicants only.)
10	Veteran's Day—NO CLASSES
20–30	Registration for winter session
22–26	Thanksgiving Holiday—NO CLASSES

December

22	Last day of fall semester classes

Winter Session 2000–2001

November

20–30	Registration for winter session

December

1–13	Registration (cont.)
14	Late registration begins for winter session
27	Winter session begins

Spring 2001

December

Nov. 6–10	Graduate students meet with Advisors for spring 2001 course approvals (Degree candidates and applicants only.) Spring pre-registration (graduate students only.)
Nov. 20–Dec. 31	Walk-in/Mail-in/Phone-in/Fax-in Registration for spring 2001 semester Sanders Administration Building 9:00 am–7:00 pm Mon.–Thurs. 9:00 am–4:00 pm Fri.

January

1–3	Registration (cont.)
Jan. 4	Late Registration begins. Registrations and course changes accepted prior to the second class meeting. (Class meeting defined as 2.5 hours)
15	Martin Luther King Day—NO CLASSES
17	First day of classes

February

19	U.S. President's Day—NO CLASSES
19–25	Vacation for off-campus sites only
16	Final day for making up Incomplete Grades from previous semester. (fall 2000)

March

9–18	Spring vacation—on-campus courses

April

9–13	Graduate students meet with Advisors for summer and fall 2001 course approvals (Degree candidates and applicants only.)
16	Patriot's Day—NO CLASSES
16–22	Vacation period—off-campus sites ONLY

May

16	Last day of spring semester classes.
24	Commencement 6:00 pm—Campus Quadrangle

Calendar Subject to Change

Graduate and Continuing Education Summer Session 2001

Summer Session I-May 29-June 29

April

9–30	Walk-in/Mail-in/Phone-in/Fax-in Registration for 2001 summer sessions I and II are accepted. Sanders Administration Building, 9:00 am–7:00 pm Mon.–Thurs.; 9:00 am–4:00 pm Fri. To register by phone, call 978-665-3181 (MasterCard and VISA ONLY. Charge must be over $50.00) Fax number is 978-665-3658.

May

1–14	Registration (cont.)
15	Late Registration begins for summer session I. Registrations and course changes accepted prior to the second class meeting. (Class meeting defined as 2.5 hours)
29	First day of classes for summer session I.
28	Memorial Day—No classes.

June

29	Final day of classes for summer session I.

Summer Session II-July 9-August 10

April

9–30	Walk-in/Mail-in/Phone-in/Fax-in Registration for 2001 summer sessions I and II are accepted. Sanders Administration Building, 9:00 am–7:00 pm Mon–Thurs.; 9:00 am–4:00 pm Fri. To register by phone, call 978-665-3181 (MasterCard and VISA ONLY. Charge must be over $50.00) Fax number is 978-665-3658.

June

1–25	Registration (cont.)
26	Late Registration begins for summer session I. Registrations and course changes accepted prior to the second class meeting. (Class meeting defined as 2.5 hours)

July

4	Independence Day—No classes.
9	First day of classes for summer session II

Aug.

10	Final day of classes for summer session II.

Calendar Subject to Change

Our Commitment to You

The Fitchburg State Guarantee

Fitchburg State guarantees that its graduates will be prepared to meet the standards of the careers for which they have been educated. If within three years of a student's graduation from the college an employer determines that the graduate is not sufficiently or properly educated to those standards, the college will provide the necessary course or courses at no cost.

"The Fitchburg State community is able to extend this assurance to employers because the college stands by the academic quality of its programs and the preparation of its graduates. We are proud of our students and confident that they are, indeed, competitive at the very highest national and international levels. Our faculty members often seek the advice of practitioners when designing their programs, and have established an extensive system of practica and internships that give students on-the-job experience before they graduate. The faculty know their students and understand their commitment to mastering professional standards of excellence."

—President Michael P. Riccards

Institutional Accreditations, Approvals, Memberships, and Affiliations

Accredited By

Fitchburg State College is accredited by the New England Association of Schools and Colleges, Inc.; the National League for Nursing Accrediting Commission; the Council for Standards in Human Service Education; the National Accrediting Agency for Clinical Laboratory Sciences;, and the National Council for Accreditation of Teacher Education.

The New England Association of Schools and Colleges is a non-governmental, nationally recognized organization whose affiliated institutions include elementary schools through collegiate institutions offering postgraduate instruction.

Accreditation by the New England Association assures that the institution:

- Meets or exceeds criteria for the assessment of institutional quality periodically applied through a peer group review process
- Maintains the necessary resources to achieve its stated purposes through appropriate educational programs and gives reasonable evidence that it will continue to do so in the foreseeable future
- Maintains its demonstrated institutional integrity

Inquiries regarding the status of an institution's accreditation by the New England Association should be directed to the administrative staff at the college or to the Association at:

Commission on Higher Education
New England Association of Schools and Colleges
The Sanborn House, 15 High Street
Winchester, Massachusetts 01890
617-729-6762

Addresses for other accrediting agencies include:

National League for Nursing Accreditation Commission
350 Hudson Street
New York, New York 10014

National Accrediting Agency for Clinical Laboratory Sciences
WWW.NAACLS.ORG
773-714-8880

Approved by

- The National Association of State Directors of Teacher Education and Certification
- The Interstate Certification Compact in Certification of Educational Personnel
- The State Board of Registration in Nursing

Member of

- The American Association of Colleges of Teacher Education
- The College Entrance Examination Board
- The Massachusetts Association of Colleges of Nursing, the National League for Nursing Council of Baccalaureate and Higher Degree Programs, and the Massachusetts and Rhode Island League for Nursing
- The American Association of State Colleges and Universities and the International Association of Colleges and Universities
- The American Council on Education
- The New England Association of College Admissions Counselors and the American Association of Collegiate Registrars and Admissions Officers
- The Council of Colleges of Arts and Sciences and the Council of Graduate Schools
- The North American Association of Summer Sessions
- American Assembly of Collegiate Schools of Business and the Association of Collegiate Business Schools and Programs
- American Academy for Liberal Education

Merrimack Education Center

The Merrimack Education Center, located in Chelmsford, Massachusetts, is an educational collaborative serving 22 school districts with 100,000 students and 6,000 teachers and administrators. MEC programs are designed to:

- Meet changing educational priorities
- Support educational reform
- Provide teacher recertification opportunities
- Provide educational services, cooperation, and innovation

The Fitchburg State College Office of Graduate and Continuing Education collaborates with MEC's Office of Staff Development through its Extended Campus Center to offer courses for credit. Each year more than 1,000 MEC educators participate, and approximately 40 earn degrees and certificates including:

- Master of Education in Elementary and Secondary Fields
- Certificate and Certificate of Advanced Graduate Studies (CAGS)

The Merrimack Education Center Curriculum Council, consisting of participating school systems and Fitchburg State College faculty and administration, supervise the quality and content of FSC/MEC course offerings and programs. Established by Title III funds, MEC continues through the support of its membership.

Rollins Griffith Teacher Center and the Center for Media Technology of the Boston Public School System

In collaboration with the Rollins Griffith Teacher Center and the Center for Media Technology of the Boston Public School System, Fitchburg State College offers a Master of Science Degree Program in Communications Media/Instructional Technology. The objectives of the program are to:

- Equip teachers and interested professionals with the knowledge and skills necessary for the effective development and management of media technology in school settings
- Update teachers' technological skills with innovative and up-to-date curricula and courses
- Build on teachers' curriculum-based knowledge and equip them with skills for presenting information to students with creative methodologies
- Make teachers familiar and comfortable with media technology so they can easily incorporate it into their classroom curricula

Dr. Randy Howe, Graduate Program Chair of the Communications Media Department and the Graduate Curriculum Committee work in close collaboration with Dr. Nancy Jones of the Rollins Griffith Teacher Center and the Center for Media Technology to administer and implement this program.

A Bachelor of Science in Education leading to provisional certification with advanced standing (initial) in elementary education is also offered in collaboration with FSC Education faculty. The program takes place on campus and on location for Boston Public School paraprofessionals. Dr. Ronald Colbert, Chair of the Education Department, serves as advisor for this program.

Ramakrishna Paramahamsa Educational Society and Fitchburg State College: A Joint Venture

The Ramakrishna Paramahamsa Educational Society is an organization devoted to the delivery of academic and professional development programs to students in Hyderabad, India who have completed a Bachelor's degree. Founded in 1987, the Society launched its first educational venture by establishing the Vivekananda School of Post Graduate Studies. The Ramakrishna Paramahamsa Educational Society offers many programs that are affiliated with Osmania University, the largest university in the state of Andhra Pradesh in India.

Fitchburg State College and the Ramakrishna Paramahamsa Educational Society have agreed to offer collaboratively a Master of Business Administration (MBA), and a M.S. in Computer Science to the citizens of Hyderabad, India.

The two programs are unique in the flexibility they offer students. After one year of taking foundation courses for master's level study, students have the option of taking their graduate courses in the United States at Fitchburg State College or continuing at the Vivekananda School of Post Graduate Studies in Hyderbad, India, in a program offered collaboratively with Fitchburg State College. Upon successful completion, students will be awarded a graduate degree by Fitchburg State College.

Further information may be obtained from the Coordinator, Extended Instruction Programs at 978-665-4122 or from:

Vivekananda School of Post Graduate Studies
Sringar Colony Road
Punjagutta, Hyderabad - 500 873 INDIA
Phone: 091-040-3744908

Servicemembers Opportunity College

Fitchburg State College is a fully-approved SOC member. The SOC principles and criteria subscribed to by all member institutions provide the basis for a consistent and uniform approach to meeting the educational goals and special needs of military personnel. The Associate Registrar serves as the counselor for this important program.

Collegewide Policies

Affirmative Action Policy

It is the policy and commitment of Fitchburg State College not to discriminate on the basis of race, religion, color, age, gender, sexual orientation, disability, veteran status, marital status, or national origin in its educational programs, activities, admissions, or employment policies, and to comply with the requirements of Federal Executive Orders 11246 and 11375 as amended; the Civil Rights Act of 1964 as amended; Title IX of the Educational Act of 1972; Sections 503 and 504 of the Rehabilitation Act of 1973; Section 402, Vietnam Era Veterans Readjustment Assistance Act of 1974; the Civil Rights Restoration Act of 1988; Americans with Disabilities Act of 1990; the Civil Rights Act of 1991; and pertinent laws, regulations, and Executive Orders, directives of the Board of Higher Education of the Commonwealth of Mass., the Commonwealth of Massachusetts, and other applicable state and federal statutes.

Inquiries concerning the application of, or compliance with, the laws and regulations prohibiting such discrimination should be addressed to:

- Director of Human Resources/Affirmative Action and designated Title IX Coordinator; or 978-665-3172
- Steven J. Lanciani at 978-665-3118 Vice President for Facilities Management and designated Coordinator for Section 504 and the Americans with Disabilities Act; or
- Office of the Assistant Secretary of Civil Rights, United States Department of Education, Washington, D.C.

Sexual Harassment Policy

It is against the policy of Fitchburg State College for any member of the college community, male or female, to sexually harass another employee or student. The college is committed to providing a working, living, and learning environment that is free from all forms of abusive, harassing, or coercive conduct. This policy seeks to protect the rights of all members of the College Community (faculty/ librarians, administrators, staff, and students) to be treated with respect and dignity.

Sexual harassment consists of unsolicited verbal, non-verbal, and/or physical conduct, which has the effect of interfering with student or employment status or of creating an intimidating, hostile, or offensive environment. The college's Affirmative Action Grievance Procedures will serve as a system of review and resolution for both formal and informal complaints. Further information or advice may be obtained by contacting the Director of Human Resources/ Affirmative Action at 978-665-3172.

Privacy and Confidentiality Regulations

A Fair Information Practices Act (FIPA) administrator directs the Privacy and Confidentiality Regulations. Copies of the regulations as part of FIPA Chapter 766 (of the Acts of 1965) are posted on bulletin boards at the college and kept on file at the Registrar's Office.

Students should note that if any of these regulations should conflict with applicable provisions of the Federal Privacy Act of 1974 as amended, or with any regulations promulgated pursuant to said act, the provisions of said federal act or federal regulations shall control.

Human Studies Policy

The college has established a Human Studies Policy and Committee, which reviews and approves the adequacy of protection provided for human subjects serving as research subjects. The college is cognizant of its responsibility to protect the privacy, safety, health, and welfare of such subjects. A copy of this policy may be obtained in the Office of Academic Affairs.

Drug-Free Environment

Fitchburg State College is in compliance with the Drug-Free Workplace Act of 1988 and the Drug-Free Schools and Communities Act, Amendment of 1989. Information regarding these acts and the College's compliance with them is distributed to the college community yearly and is also available from the Director of Human Resources.

Alcohol Policy

Fitchburg State College enforces all state laws and city ordinances regarding the possession, use, and sale of alcoholic beverages including those prohibiting drinking by individuals under 21 years of age. College policy restricts when, where, and how alcohol may be served and the amount of alcohol that a resident student may bring into the residence halls.

The FSC community recognizes the importance of personal and communal responsibility with regard to its alcoholic beverage policy. It assumes that any student who has consumed alcohol accepts responsibility for his/her consequent behavior. Being intoxicated will not be accepted as an excuse for erratic, irresponsible behavior either to individual or others' person or property. Any student found to be intoxicated will be considered in violation of the Alcohol Policy and will be subject to the Student Discipline System.

Massachusetts law forbids the possession of, use, and sale of alcoholic beverages to persons under 21 years of age. The law also forbids falsifying age and identification cards. The college enforces the law and expects all students, faculty, administrators, and staff to abide by it.

Use or possession of alcoholic beverages in public areas (campus grounds, athletic events, parking lots, academic buildings, dining hall, Campus Center) regardless of age, except at approved functions, is prohibited. Open containers of any alcoholic beverage is a violation of this policy.

A complete copy of the Alcohol Policy is available in the Undergraduate Student Handbook or from the Office of Student Affairs.

Substance Abuse Policy

In accordance with the Drug-Free Schools and Communities Act, Fitchburg State College has adopted the following Substance Abuse Policy:

> Only in an environment free of substance abuse can the college fulfill its mission of developing the professional, social, cultural, and intellectual potential of each member of its community. The use of illicit drugs and alcohol impairs the safety and health of students and employees, inhibits personal and academic growth and undermines public confidence in the college. For these reasons, it is the policy of Fitchburg State College that all college activities and college property shall be free of the unlawful use of drugs and alcohol.

Prohibited Conduct

The students and employees of Fitchburg State College shall not unlawfully manufacture, distribute, dispense, possess, or use controlled substances or alcohol. Any individual who violates this prohibition will be subject to disciplinary action. Sanctions may include expulsion or firing from the college, mandatory participation in an alcohol/drug abuse assistance or rehabilitation program, as well as referral of the matter to law enforcement agencies for prosecution.

Students and employees are required to notify the Director of Human Resources (and, in the case of students, the Director of Financial Aid) within five days of being convicted of violating a criminal drug statute in the workplace.

A complete copy of the Substance Abuse Policy is available in the Undergraduate Student Handbook or from the Office of Student Affairs.

No Smoking Policy

Effective July 1, 1994, Fitchburg State College became a smoke-free environment. Smoking is not allowed inside any college building with the exception of designated bedrooms in residence halls.

Those members of the college community who have special difficulties in complying with a smoke-free environment are urged to seek the assistance of either the Human Resources or the Health Services Office.

Inclement Weather Policy

Whenever inclement weather, usually in the form of snow and/or ice, makes driving conditions exceptionally hazardous, classes for that day will be canceled. In the event that day classes (on-campus and/or off-campus sites) are canceled, all evening classes and programs for that date are automatically canceled. Make up sessions are required.

Cancellation announcements can be heard on:

WEIM	(1280/AM)	Fitchburg
WXLO	(104.5/FM)	Fitchburg/Worcester
WINQ	(97.7/FM)	Winchendon
WTAG/WSRS	(580/AM; 96.1/FM)	Worcester
WBZ Storm Center	(1030/AM; TV News 4)	Boston
WCAT	(99.9/FM)	Orange
WCVB-TV5		Boston
WRKO-7 News		Boston
WXPL	91.3/FM	FSC Campus Radio (after 8:00 am)

or by calling 978-665-3006 (residence students),
or 978-665-4003 (off-campus, commuter students.)

The decision to cancel classes scheduled for weekends or holidays rests with the instructor. Students should consult with their instructor for his/her class cancellation and make up policy.

Waiver of Academic Regulations

The college acknowledges that extenuating circumstances relative to rules, regulations, and programs occasionally require a waiver of regulations. Although students may petition for a waiver, they should understand that the justification for a waiver should be as exceptional as the granting of one.

Petitions for a waiver of regulations begin with the Dean of Undergraduate Studies or Dean of the Graduate Studies.

The provisions of this catalog are **not** to be regarded as an irrevocable contract between the College and its students.

Admissions

Students who seek a quality education are invited to apply for admission to Fitchburg State College. Fitchburg State welcomes applications from high school graduates, students returning to college after a hiatus, transfer students, and international students. After careful review of the application and supporting materials, admission is offered to students whose secondary school and/or college records and backgrounds offer the promise of a successful and satisfying undergraduate experience.

Undergraduate Admissions

Admission Standards

Fitchburg State College is committed to providing excellent, accessible, and affordable life-long learning opportunities in undergraduate, graduate and continuing education. The college seeks students who are motivated to achieve academic excellence, and who represent a broad variety of backgrounds and interests.

With the guiding principles of quality, access and diversity in mind, Fitchburg State has adopted standards which support the standards established by the Commonwealth of Massachusetts. These standards provide a framework for the individual evaluation of each applicant to the college.

Campus Visits

The Admissions Staff encourages all applicants to visit the Fitchburg State College campus. A variety of visitation programs, including student guided tours, are available to people interested in learning more about the campus and its programs.

Interviews are not required, but can provide the Admissions Committee with helpful information. Applicants who desire to have an interview are invited to call the Admissions Office for an appointment. The college encourages students with disabilities to discuss their situations with an Admissions Counselor so that the College can better accommodate their needs.

Admissions Office Hours

Monday, Tuesday, Wednesday, and Friday:
8:00 am to 5:00 pm
Thursday: 8:00 am to 8:00 pm
Saturday: 9:00 am to 12:00 pm (during the academic year)

Student guided tours are scheduled

Monday–Friday at 11:30 am, and 2:30 pm.

Saturday at 10:30 am and 11:30 am (during the academic year)

For information about open house programs, individual interviews, other visitation options and to receive admissions materials contact the Admissions Office at:

Admissions Office
Fitchburg State College
160 Pearl Street
Fitchburg, Massachusetts 01420-2697
Telephone: 978-665-3144
Email: admissions@fsc.edu
Web Site: www.fsc.edu

Applications Filing Dates

All materials should be submitted as early as possible. Recommended filing dates for the fall and spring semesters are listed below. After these dates, contact the Admissions Office to determine if applications are still being accepted.

Fall Semester:

First Year Students: April 1

Transfer Students: April 1

Spring Semester:

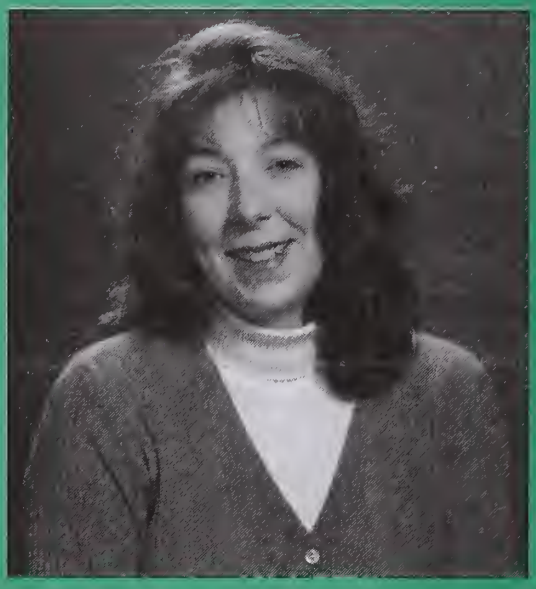
First Year Students: December 1

Transfer Students: December 1

Fitchburg State College employs a "rolling admissions" policy. Rather than notify all applicants simultaneously, we do so on a continuing basis over a period of several months, beginning in the early part of January for September applicants.

There are no deadlines for applications to evening programs, which are accepted year-round.

PROFILE



Lisa David

Staff, Expanding Horizons

Lisa is a Learning Specialist for Expanding Horizons, a grant-funded support program for students who have disabilities, who are from low-income families or whose parents did not go to college. A graduate of Fitchburg State's Special Education program, Lisa is currently pursuing a master's degree at FSC. She says her experience as a reading teacher—working primarily with special-needs students—gave her a good foundation for her present job. "Many of the students we serve have very few resources," she explains, "and they face a variety of obstacles, from dealing with financial constraints to the physical challenge of a disability. It's our job to empower them by providing them with the skills they'll need to be successful in the future." Lisa says she enjoys the opportunity to watch students grow and know she's helped facilitate that growth.

Application Procedure

Application Procedures—First-Time College Students

To be considered for admission to the College, applicants must submit the following to the Office of Admissions:

1. A completed **Application for Admissions**

2. A **General Equivalency Diploma** (GED) and/or a **transcript** of the complete high school record through the first marking period of the senior year.

   Secondary School Preparation
   The minimum required college-preparatory academic units required for admission are:

   - English: 4 years
   - Mathematics: 3 years (includes: Algebra I, Geometry, Algebra II or other advanced mathematics courses)
   - Science: 3 years (includes 2 years of laboratory science)
   - Social Science: 2 years (includes one year of U.S. History)
   - Foreign Language: 2 years (must be in the same language).
   - College Preparatory electives: 2 years (from the above areas, or from college preparatory courses in the Arts, Humanities or Computer Sciences.)

   Additional work in the math and sciences is strongly recommended, particularly for students intending to major in the sciences or science-related fields.

   If an applicant graduated from a high school that did not offer the required Academic Units and that high school has received a waiver from The Board of Higher Education, the applicant may substitute other college preparatory electives.

   Students submitting the GED must also submit a high school transcript reflecting work completed while attending high school.

3. Scores from **Scholastic Aptitude Test** (SAT), or the ACT.* Although not required, the college welcomes the results of the College Entrance Board Subject Tests.

   * Applicants with documented learning disabilities are exempt from taking any standardized college entrance aptitude test for admittance to any public institution in the Massachusetts (M.G.L. Chapter 15A, Sec 30).

4. An **essay** on personal goals or results from SAT II.

5. Letters of recommendation, while not required, are helpful in the evaluation process.

6. A resume of activities if time has lapsed between the time of high school graduation and the application process to Fitchburg State College.

Acceptance to FSC is contingent upon graduation from high school or equivalent preparation (GED).

Application Procedures—Special Admissions Applicants

A candidate who demonstrates the potential for academic success, has met the Academic Units requirement ("First-Time College Students"), and meets one of the three stipulations below is considered minimally qualified for admission as a special admissions applicant.

1 Applicants present an Individual Education Plan or the equivalent under Chapter 766 or Chapter 344. Also, applicants who have a demonstrated language disability that would preclude the applicant from learning a foreign language must substitute two units from the humanities and/or the social sciences.

2 Special talent applicants who satisfy the following:

- A combined SAT score of 900 or equivalent percentile rank from an ACT, TOEFL, or ELPT score
- Have declared a major, and
- Based upon the applicant's special talent, the major department chooses the requirements for application to the College and, after review, recommends the applicant for admission to that major. The department may require additional documentation such as a portfolio or writing sample and/or an interview.

3 Applicants who are educationally disadvantaged because of low income, limited English proficiency or racial discrimination must submit an SAT or ACT score for advising purposes. Applicants for whom English is a second language should provide scores from the TOEFL or the ELPT.

Minimum qualification does not guarantee acceptance to the college.

Application Procedures—International Students

Fitchburg seeks a culturally diverse campus and welcomes applications from students from other countries.

In addition to the basic admissions requirements for new and transfer students, international students must submit several additional items, including:

- The Test of English as a Foreign Language (TOEFL) with a minimum score of 500, is required if the applicant's native language is not English
- The Test of Spoken English (TSE) may be requested if proficiency is not indicated
- An official bank statement showing that sufficient funds will be available to support the student for one academic year. Students may also submit INS form I-134.
- These documents should be forwarded by March 1 for the fall semester and October 1 for the spring semester
- All transcripts should be sent directly from the original institution to the admissions office.
- A copy of all past I-20's and/or IAP 66's
- Students on F-1 visas must study on a full-time basis and are not eligible for state or federal financial aid.

Application Procedures—Non-Traditional Students

A non-traditional student is a student who does not enter college immediately after completing high school. Generally the student has experience in a career, at home, or in the military.

Admissions requirements are similar to those of any new student; including:

- High school transcript and/or GED
- SAT or ACT scores*
- Letters of recommendation
- Resume of activities showing life experience

* Waived if student is out of school three years

Part-Time Non-matriculating Students

A non-matriculated student is a high school graduate who is not applying for a degree program but wishes to enroll in college courses. These students may enroll in a maximum of three courses or 11 credits. Registration for non-matriculated students is scheduled after the degree-seeking students have registered. Nonmatriculating students (those not enrolled in degree or certificate programs) may take courses for which they have fulfilled any specified prerequisites.

Dual Enrollment Program

The Commonwealth of Massachusetts will pay for college-level courses for juniors or seniors in high school with the following:

- 3.0 or better Grade Point Average
- Recommendations from the high school to take college level courses

Fitchburg State College encourages high school students to participate in this program and holds special registration for these students each semester. Please contact the Admissions Office for additional information at 978-665-3144.

Joint Admissions

Students enrolled in Massachusetts Community Colleges may seek joint admission to Fitchburg State College. Such a student must complete an Associates Degree in a Transfer Program, which enables them to continue their education at FSC as juniors. Requirements for joint admissions are:

- Completed Associate's Degree with 2.5 average in a Transfer Program
- Approval of the appropriate academic departments
- Presentation of appropriate credentials (a second admission review is not required)

Alternate Admission Programs

The college supports two alternate admission programs for students who either do not meet the admission criteria established for Massachusetts state colleges or have non-traditional backgrounds: The Fitchburg State College/Mount Wachusett Community College Institute and the Summer Bridge and Transition Year Program. Both are described below. Both programs require students to submit the regular application for admission; no additional applications are required. For more information on either of these programs, please contact the admissions office.

The Fitchburg State College/Mount Wachusett Community College Institute

The Institute is a collaborative program sponsored by MWCC and FSC to serve the educational needs of students. This program seeks to serve those students initially denied admission to the public four-year institution of their choice due to the new admission standards set forth by the Massachusetts Board of Higher Education.

The Institute provides the opportunity for a student to ultimately enroll at FSC by first completing necessary course work at MWCC. Students enrolled in *The Institute* benefit from FSC and MWCC's long-standing tradition of collaboration, articulation agreement, close proximity to each other, a shared regional transportation system, and a commitment to support students' academic, co-curricular and social development.

There are many benefits associated with the participation in *The Institute:*

- On-campus housing at FSC is offered to enrolled students
- Coordinated academic advising is offered at both colleges
- Coordinated academic assessment is offered at both colleges
- Coordinated orientation program is offered at both colleges
- Access to selected student activities on both campuses (while students are enrolled at MWCC they are not eligible for intercollegiate athletics or elected office in student government at FSC)
- Complete access to all student support services at both colleges
- FSC and MWCC participation in the Worcester Consortium allows students to take one class free of charge at other participating Consortium schools

The Summer Bridge Program

This program is designed to support selected students by developing the academic, social and co-curricular skills needed to insure academic success at the college level.

The Summer Bridge Program will serve 60 students each year. Students, as a condition of their admission to the college, will attend a five-week summer program. This is a full-time (7 days per week) residential program that is free to the student. During this summer program, students will earn academic credits, receive development support for academic and co-curricular skills, and participate in a rich social program.

Students who complete the Summer Bridge program with a 2.0 GPA and the recommendation of the Summer Bridge Coordinator will be admitted to the college.

This program is modeled after successful programs available at colleges across the country. Its goal is to improve retention rates for students who, for a variety of reasons, are considered at risk for academic difficulty. The college's varied resources support this comprehensive program—academic advising, financial aid, assessment, student activities, campus living, career development, library services, to name but a few areas.

Application Procedures—Transfer Students

Transfer students who want to be considered for admission to the college must meet the following criteria:

- Twelve or more semester units (eighteen quarter units) of college credit must be earned by planned entrance date. Students with less than 12 semester credits are considered first-time college students.
- A grade point average of 2.0 or better with 24 or more transferable credits from an accredited college or university or a 2.5 or better with 12 to 23 transferable credits. Having such an average, however, does not guarantee admission to specific programs.
- If a prospective transfer student has earned 23 transferable college credit with an a 2.5 GPA, then the student's high school work must satisfy first year student's admissions requirements.

The following credentials must be submitted:

- An **Application for Admission**
- **Transcripts** of all previous college work, including a statement of honorable dismissal from the last college attended
- A 300-word **essay** describing your educational goals and motivation to go to college
- A final **high school transcript**

Evaluation of Credit

The amount of credit that will transfer into an FSC program is determined only after the student has been accepted to the college. Transfer credit is normally granted under the following conditions:

- Work was completed in an accredited college and/or university and the student received a 2.0 (C) or better
- Transferred courses which correspond with those offered at Fitchburg State College will be given full credit. Courses which do not fit the degree program may be counted as fulfilling the free elective requirements of the four-year curriculum

Students transferring from two-year institutions will be entitled to a maximum of two years of credit (60 semester hours). Students transferring from baccalaureate level institutions may be entitled to more, but they may not transfer more than 50% of the total credit hours required in their major. They also must complete a minimum of forty-five credit hours in residence in order to receive a degree from Fitchburg State College.

The grade point average from previously attended colleges and universities is dropped, and a new GPA is established, reflecting the student's performance while matriculating at Fitchburg State College.

For some transfer students, the requirements and provisions of "The Commonwealth Transfer Compact" apply. The complete text of the "Compact" is printed following this section.

The Commonwealth Transfer Compact

January 1990

For students transferring from Massachusetts community colleges to public colleges and universities offering the baccalaureate degree.

Section I: Requirements for Transfer Compact Status

A student shall be eligible for Transfer Compact status if he or she has met the following requirements:

- Completed an Associate's degree with a minimum of 60 credit hours exclusive of developmental course work
- Achieved a cumulative grade point average of not less than 2.0 (in a 4.0 system) at the community college awarding the degree
- Completed the following minimum general education core exclusive of developmental course work:

English Composition/Writing	6 credit hours
Behavioral and Social Sciences	9 credit hours
Humanities and Fine Arts	9 credit hours
Natural or Physical Sciences	8 credit hours
Mathematics	3 credit hours

The sending institution is responsible for identifying the transcript of each student who is a candidate for transfer under this compact.

Section II: Credits to be Transferred

The 35 credits in general education specified in Section I will be applied toward the fulfillment of the receiving institution's general education requirements.

A minimum of 25 additional credits will be accepted as transfer credits by the receiving institution. These credits may be transferred as free electives, toward the receiving institution's additional general education requirements, toward the student's major, or any combination, as the receiving institution deems appropriate.

Only college-level credits consistent with the standards set forth in the Undergraduate Experience recommendations are included under this Compact. Credits awarded by the sending institution through CLEP, challenge examinations, and other life-experience evaluations for course credit may be included when the community college certifies that a student qualifies under this Compact.

Section III: Credits Beyond the Associate Degree

To complete the baccalaureate degree, a student who transfers under this Compact may be required to take no more than 68 additional credits unless:

- The student changes his or her program upon entering the receiving institution; or
- The combination of additional general education requirements, if any, and the requirements of the student's major at the receiving institution total more than 68 credits

Under these circumstances, transfer students will be subject to the same requirements as native students. (The term "native student" refers to students who began their undergraduate education at the baccalaureate institution.)

Section IV: Admission to Competitive Majors or Programs

If, because of space or fiscal limitations, the receiving institution does not admit all qualified applicants to a given major or program, the receiving institution will use the same criteria for applicants who are transfer students under this Compact as it does for its native students.

Section V: Transfer Coordinating Committee

A Transfer Coordinating Committee, convened by the Higher Education Coordinating Council of the Commonwealth of Massachusetts, will monitor use of the Transfer Compact, resolve appeals as they pertain to the provisions in this document, and collect and analyze relevant data.

Section VI: Publication of Requirements

Each public college and university shall include in its official undergraduate catalog the provisions of the Commonwealth Transfer Compact. A transfer student may not be held to any degree requirements at the receiving institution that were established less than three years prior to transfer admission.

Section VII: Transfer Records

The student with Transfer Compact status will be provided (by the receiving institution) a list of courses to be fulfilled to earn a baccalaureate degree, no later than the end of the semester the student enrolls. With the agreement of the student, a copy will be provided to the Transfer Officer at the sending community college.

Section VIII: Transfer Officer

The President or Chancellor of each public institution of higher education will identify an individual who serves as that institution's Transfer Officer. The Transfer Officer's responsibility will be to assist students with transfer activities.

Section IX: Student Appeals

A student who believes that the provisions of this Compact have not been applied fairly to his/her transfer application has the right to appeal.

Initially, differences of interpretation regarding the award of transfer credit shall be resolved between the student and the institution to which he/she is transferring. If a difference remains unresolved, the student shall present his/her evaluation of the situation to the institution from which the student is transferring. Representatives from the two institutions shall then have the opportunity to resolve the differences.

Absent a satisfactory resolution, differences of interpretation may be presented to the Transfer Coordinating Committee.

Section X: Effective Date

The Commonwealth Transfer Compact takes effect January 9, 1990.

New England Regional Student Program

This program enables residents of Connecticut, Maine, New Hampshire, Rhode Island, and Vermont to be considered for admission to programs of study not offered by public colleges in their home states. Applicants selected under this program are granted reduced tuition rates (50% above regular in-state tuition, rather than full out-of-state tuition). For further information, please contact the Admissions Office or the New England Board of Higher Education, 45 Temple Place, Boston, Massachusetts 02111.

Worcester Consortium

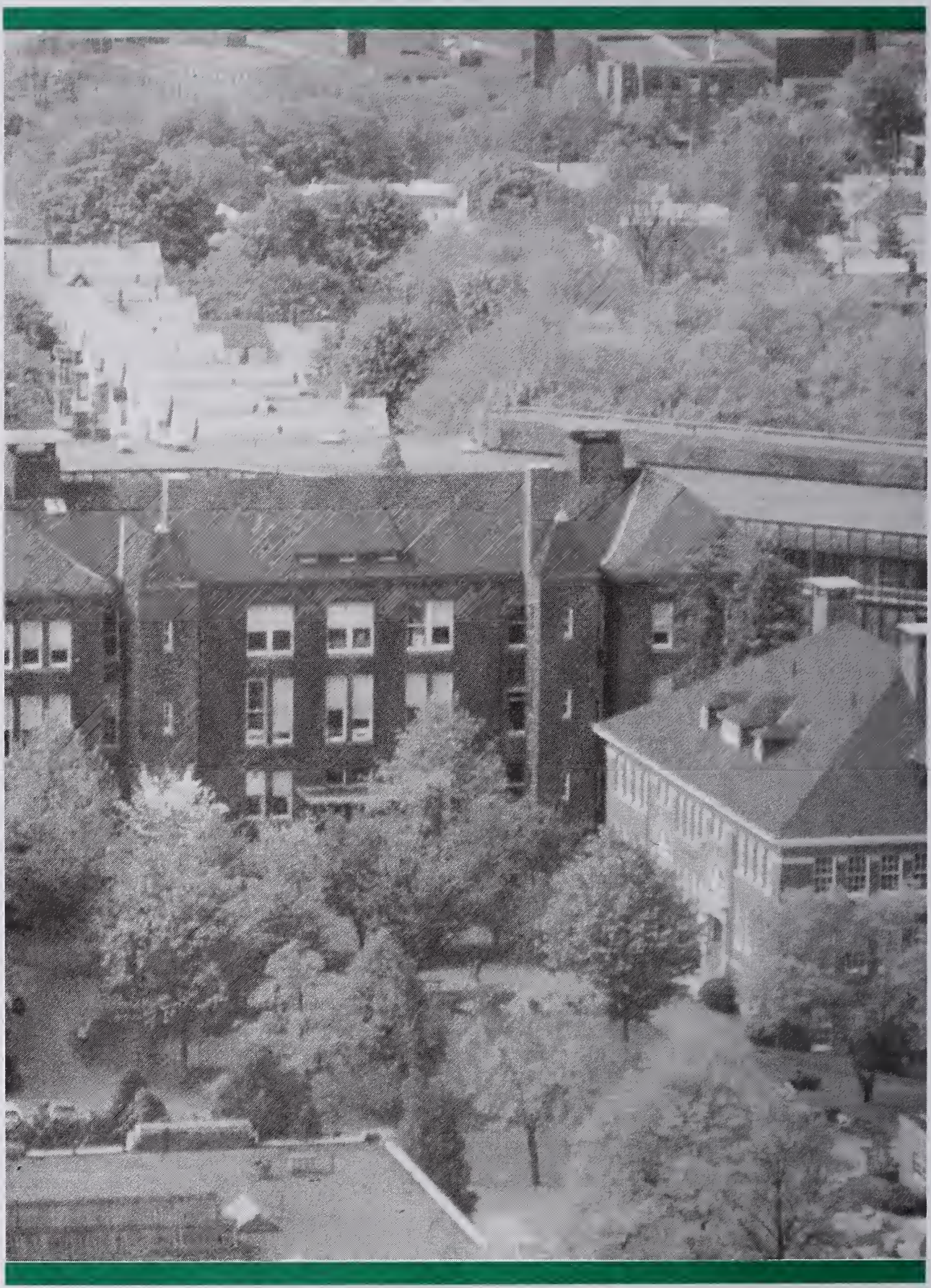
All students enrolled full-time at Fitchburg State College are eligible to take one course each semester at one of the Worcester Consortium Colleges: Anna Maria College, Assumption College, Atlantic Union College, Becker College, Clark University, College of the Holy Cross, Fitchburg State College, Massachusetts College of Pharmacy and Health Sciences, Mount Wachusett Community College, Nichols College, Quinsigamond Community College, Tufts University School of Veterinary Medicine, University of Massachusetts Medical School, Worcester Polytechnic Institute, and Worcester State College.

Please contact the Registrar's Office for additional information.

Air Force Reserve Officer Training Corps

Fitchburg State College students may participate in Air Force Reserve Officer Training Corps (AFROTC) at Worcester Polytechnic Institute. Qualified U.S. citizens who earn their degree from Fitchburg State College and satisfactorily complete the AFROTC program requirements will be commissioned as second lieutenants in the United States Air Force. AFROTC offers a four-year and two-year program for qualified individuals to earn their commission. Two- and three- year scholarship opportunities are also available to qualified individuals in specific areas of academic study. For more details write the Department of Aerospace Studies, 100 Institute Rd., Worcester, Massachusetts 01609-2280, or call (508) 831-5747, or email at AFROTC@wpi.edu.

Tuition and Fees



Undergraduate Day Tuition and Fees

All costs listed below reflect Board of Trustees policy as of February 2, 2000. The Board of Trustees or the Board of Higher Education reserves the right to adjust the fees. Funds accrued for educational purposes are applied on a first funds received, first funds applied to bill basis.

2000–2001 Tuition Rates

- In-state students ..... $1,030/year $515/semester
- Out-of-state students ..... $7,050/year $3,525/semester
- New England Regional .. $1,545/year $772.50/semester

Students aged 60 or over may enroll in classes tuition-free, provided seating is available after the registration of tuition-paying students.

2000–2001 Standard Fees

The fees listed below are on a per year basis and are payable in equal installments at the beginning of each semester, except where indicated.

Application Fee, In-state $10
(not refundable or applicable to tuition, one time only)

Application Fee, Out-of-state $40
(not refundable or applicable to tuition, one time only)

College Fee $1,700

Health Insurance (per annum) $622
(required only if not covered by private insurance)

MASSPIRG (optional) $14

Student Activity Fee $60

Capital Projects Fee $168

Room and Board

The college offers a variety of on-campus housing as described in the Student Life section of the catalog. Campus Living Residence Hall rates are as follows:

Aubuchon Hall	$1,325/semester	$2,650/year
Herlihy Hall	$1,325/semester	$2,650/year
Russell Towers	$1,325/semester	$2,650/year
Mara Village	$1,350/semester	$2,650/year
Town Houses	$1,675/semester	$3,350/year.

The above rates are for double occupancy in listed Residence Halls. Additional charges are added to the base rate for single occupancy as follows:

Design Single	$200/semester	$400/year
Premium Single	$350/semester	$700/year

For 12 month contracts add $1000 /year.

Residence Hall rates include cable television, internet access and telephone service (exclusive of long distance charges) in the stated room rate.

Dining Services

Whether you like to eat three times a day, or prefer a lighter daily diet, Fitchburg State has a meal plan to meet your needs. You can grab a quick bite between classes in our Commuter Cafe or enjoy a complete hot meal in our all-you-can-eat Holmes Dining Hall.

Meal Plan

19 Meal Plan
Any 19 meals/week

Three quest passes/week

$3 lunch exchange for the Commuter Cafe Monday–Friday till 4 pm

$75 in Falcon Dollars

15-Meal Plan
Any 15 meals per week

$50 in Falcon Dollars

10-Meal Plan
Any 10 meals per week

$10 in Falcon Dollars

5-Meal Plan
Any 5 meals per week for breakfast or lunch, Monday-Friday at Holmes Dining Hall

$15 Falcon Dollars

Falcon Dollars can be used in the Commuter Cafe or in vending machines located in academic buildings and residence halls.

Deposits

The following advance deposits are nonrefundable:

- Fee bill deposit $85
  (paid once at time of acceptance;
  credited toward first semester fee bill)
- Residence Life Deposit $50

The Residence Life Deposit is required of all students accepting accommodations and is credited against the second semester room charge. No refunds of this deposit are granted if second semester occupancy is terminated for any reason.

Payment Options

Bills can be paid in the form of cash, cashier's checks, money orders, bank checks, traveler's checks, MasterCard, VISA, or personal checks. Fitchburg State College also has a tuition payment plan that is administered directly through the Tuition Management Services (TMS).

Any payments that become past due immediately jeopardize the student's enrollment. Until debts are cleared, a student will not be permitted to graduate or to register for a subsequent semester or summer session. Furthermore, the student may not be issued diplomas, degrees, or other official statements unless otherwise mandated by law. Any collection costs associated with the collection of this debt is the responsibility of the student.

Please Note: A student will be charged $25 for any personal checks returned to the college by the bank. A $25 late payment fee will also be incurred.

Refund Policy*

- First-time attendees receiving Federal Financial Aid: Prorata Refund Policy
- Non-first-time attendees receiving Federal Financial Aid: Federal Refund Policy
- Student not receiving Federal Financial Aid: Same as Federal Refund Policy
- Students dropping below full time: Same as Federal Refund Policy but for only a 3-week period

Enrollment Period

The fall and spring terms are a 15-week schedule. The 50% point is up to the seventh week. The 60% point is up to the ninth week of school.

All Returning Students and First-Time Attendees Without Federal Title IV Aid*

Withdrawal prior to the start of classes	100%
Before the beginning of the second week	90%
From the second week but before the third week	50%
From the third week but before the fourth week	50%
From the fourth week but before the fifth week	25%
From the fifth week but before the sixth week	25%
From the sixth week but before the seventh week	25%
From the seventh week but before the eighth week	25%
From the eighth week but before the ninth week	0%
From the ninth week but before the tenth week	0%

Students who withdraw after the seventh week will have no adjustments to their charges.

Federal Prorata Refund Policy– First-Time Attendees With Federal Title IV Aid*

Withdrawal prior to the start of classes	100%
Before the heginning of the second week	90%
From the second week but before the third week	80%
From the third week but before the fourth week	80%
From the fourth week but before the fifth week	70%
From the fifth week but before the sixth week	60%
From the sixth week but before the seventh week	60%
From the seventh week but before the eighth week	50%
From the eighth week but before the ninth week	40%
From the ninth week but before the tenth week	40%

Students who withdraw after the ninth week will have no adjustments to charges.

Dropping Courses Below Full-Time

This is the refund policy proposed for all part-time students who drop state supported courses during the first three weeks of school.

Dropping prior to the start of classes	100%
Before the beginning of the second week	90%
From the second week but before the third week	50%
From the third week but before the fourth week	50%
After the fourth week	0%

Refund will only be generated if the total payments exceed total charges after adjustments have been generated.

Health Insurance

All students registering for nine or more semester hours must be enrolled in a student health insurance plan offered by the college or in a private health insurance program with comparable coverage. Students covered by insurance other than that offered by the college must sign a waiver card. If a waiver card is not signed, a student will be automatically billed $622 a year for the college insurance plan. To obtain a brochure about the college sponsored insurance, please call 978-665-3130.

Unpaid Charges

If a student receives Title IV aid and has unpaid charges owed to the college, the college may automatically credit the refund to the student's account up to the amount owed by the student.

**Based on policies in effect on February 23, 2000. All policies are subject to change.*

Undergraduate Evening and Graduate Tuition and Fees

1999–2000 Tuition Rates

The Graduate and Continuing Education tuition charges for all students are as follows:

Undergraduate	$110 per semester hour of credit
Graduate	$150 per semester hour of credit

1999–2000 Standard Fees

All students must pay the following fees:

Application Fee (non-refundable)	$10
*Comprehensive Registration Fee	$65 each semester
Capital Projects Fee	$7 per credit
*Late registration fee	$25

Students auditing classes pay regular tuition and fees. Tuition vouchers do not extend to Independent Studies.

*Nonrefundable unless a course is cancelled by the college.

Payment Options

Payment for tuition and fees must be made at time of registration in the form of cashier's check, money order, bank check, traveler's check, personal check, MasterCard, or VISA.

Any payment that becomes past due immediately jeopardizes the student's enrollment. Until debts are cleared, a student is not permitted to register for a subsequent semester or be issued academic transcripts or other official statements unless otherwise mandated by law.

Please note: All returned checks require a $25 returned check fee to cover charges by financial institutions. Students who do not respond to notification to rectify their account will have their account placed on hold and will be placed in the collection process.

Refund Policy

The amount of a refund to a student depends on the official date of the student's withdrawal. The official date of withdrawal is the date when the Graduate and Continuing Education Office receives the completed withdrawal form.

Refunds for courses designated "Special or Institute Scheduling":

100% refund one week prior to the first class meeting

50% refund one day prior to first class meeting

No refund of tuition on the first day of class or thereafter

Class meeting is defined as 2.5 hours.

If a course is canceled by the college, a student receives a full refund of tuition and fees.

Refunds

Refunds are determined by the number of hours a class has met:

Class hours

Prior to the first class meeting	100% refunded
0–2.5 hours	90% refunded
2.6–7.5 hours	50% refunded
No refunds issued after 7.5 hours	0% refunded

If a course is canceled by the college, a student receives a full refund of tuition and fees.

Refunds for Federal Financial Aid

See semester course bulletin for complete information.

Students Over Sixty Years of Age

There is no tuition charge for students over 60 years of age enrolling in credit yielding graduate or undergraduate courses. They are welcome to enroll in any class, provided space is available after the registration of tuition paying students. Students over sixty years of age are responsible for paying fees.

Tuition waivers do **not** apply to non-credit Life-long Learning courses, conferences, teleconferences, or professional development seminars and lectures offered through the Office of Graduate and Continuing Education.

Health Insurance

All matriculated undergraduate students registering for nine or more semester hours and graduate students registering for 6.75 credits or more must be enrolled in a student health insurance plan offered by the college or in a private health insurance program with comparable coverage. Students covered by insurance other than that offered by the college must sign a waiver card. If a waiver card is not signed a student will be automatically billed $684 a year for the college insurance plan. To obtain a brochure about the college sponsored insurance, please call 978-665-3181.

Financial Aid

The Financial Aid Office at Fitchburg State College is committed to providing an affordable education for every student admitted to the school. The college adheres to the basic premise that the student and family are primarily responsible for meeting college costs. Financial aid is available to assist with the educational expenses that remain after the family's resources have been taken into account.

Application Process

Financial aid funds are awarded on a first-come, first-served basis, according to demonstrated financial need. In order to receive priority consideration, students must file:

- the Free Application for Federal Student Aid (*FAFSA) with the federal processor by March 1st
- the Fitchburg State College Financial Aid Application with the FSC Financial Aid Office by March 1st
- any additional information needed to complete an applicant's file as requested in writing by the Financial Aid Office

Applications are accepted and processed after the priority dates listed above. Late applications will be reviewed on a funds available basis. All applications must be made prior to the academic year in which the applicant will be attending college to ensure the availability of financial aid to put toward the fall semester's bill.

*The FAFSA may be obtained from the Financial Aid Office or from the guidance department of most secondary schools. Each FAFSA requires four to six weeks to process.

Please remember that financial aid is not automatically renewed. It must be applied for each year.

Financial Aid Programs

Financial aid programs fall into three main categories:

- gift aid
- student loans
- work programs

Financial Aid for Undergraduate Students

Gift Aid

Gift aid is usually in the form of grants or scholarships and does not need to be earned or repaid. The following gift aid programs are available to undergraduate students at Fitchburg State College:

The Federal Pell Grant, named after its sponsor, Senator Claiborne Pell, is a federally funded entitlement program designed to assist undergraduate and continuing education students who have exceptional need. Grants range from $400 to $3,125 per academic year (July 1st to June 30th).

The Federal Supplemental Educational Opportunity Grant (SEOG) is a federally funded program, which awards funds to undergraduate students with extreme financial need and who would otherwise be unable to attend a postsecondary institution. Grants range from $200 to $1,000 per academic year.

Massachusetts State Grant Programs

These programs are administered by the Office of Student Financial Assistance (OSFA) of the Commonwealth of Massachusetts. To qualify for the following two programs students must be enrolled **full time.** The Financial Aid Office verifies information and processes payments for state grant programs.

MA State Grant is gift aid based on financial need. Grants range from $250 to $900 per academic year. Students are notified of their eligibility by OSFA and must complete the requirements as stated in their award letter.

Performance Bonus is gift aid awarded based on financial need and academic achievement. Students must earn at least 24 college credits and maintain a cumulative Grade Point Average of 3.0 or higher. The Performance Bonus is awarded in addition to the MA State Grant.

MA Cash Grant is gift aid from FSC funded by the Commonwealth of Massachusetts and awarded to Massachusetts residents.

Tuition Waiver is a state-funded program for Massachusetts residents. Applicants with demonstrated need can receive a reduction in tuition. Award amounts vary, but they cannot exceed the total tuition cost for which a student is billed.

Other State Grants

Students from other states may be eligible to receive a grant or scholarship from their respective state. Each program has its own individual guidelines and deadlines. Students are urged to contact the appropriate agency in their state for further information.

Fitchburg State College Scholarships

In addition to the gift aid programs already listed, FSC has numerous scholarships of its own. These scholarships are administered by the College Scholarship Committee or by the appropriate area representative. To assist in the evaluation of need, a Scholarship Application or a Free Application for Federal Student Aid (FAFSA) may be required. Scholarship applications are available in the Financial Aid Office after January 1st. Completed applications must be received in the Financial Aid Office no later than March 1st.

Alumni Legacy Scholarships are available to full-time students who have a parent, grandparent, spouse, sibling or dependent who is a Fitchburg State College alumnus/a. Priority is based on academic excellence and/or financial need.

Vincent J. Mara Scholarship is available to full-time students currently enrolled at Fitchburg State College, who are demonstrating academic excellence with a GPA of 3.5 or above. Community service or extracurricular activities are considered, but not required for application. A letter of recommendation from a member of the faculty is preferred.

Fitchburg State College Citizen's Award is awarded to full-time entering freshmen or transfer students who have achieved a combined SAT score of 1000 and have a 3.3 GPA. Transfer students must hold an Associates Degree to be considered. Preference is given to students who have demonstrated leadership in school or community activities. No application is necessary. For information contact the Admissions Office.

City Year Scholarship is awarded every four years to a graduate of the Boston City Year Program. For information contact the Financial Aid Office.

Departmental Scholarships offer a unique opportunity for upperclass students to work closely with the departmental chair in their discipline. High consideration is given to those students with a record of academic excellence and previous departmental service. Financial need is not a requirement for consideration and award decisions are made through each specific department.

Fitchburg Business and Professional Women's Club Scholarship is awarded to a full-time female student whose permanent residence is Ashby, Ashburnham, Fitchburg, Lunenburg, Townsend, or Westminster. One academic year at the college must be satisfactorily completed.

Martin Luther King Scholarship is awarded to full-time entering freshmen who demonstrate academic achievement, financial need, and community involvement.

Fitchburg State College Merit Scholarship is a renewable scholarship awarded to full-time entering freshmen and transfer students. Freshmen must have a combined SAT score of 1100 and have a 3.5 GPA. Transfer students must be graduates of a Massachusetts public community college and have a 3.3 GPA. No application is necessary. For more information contact the Admissions Office.

Presidential Free Tuition Scholarships are awarded to entering students who graduated from high schools in Massachusetts. The scholarship recognizes scholastic achievements and requires a combined SAT score of 1200 or higher and a 3.5 GPA.

The President's Scholars Awards are available to undergraduate students who have completed a minimum of 15 semester hours at the college and have achieved a grade point average of at least 3.75.

Special Fee Scholarship is available to full-time day students with financial need and who have applied for federal financial assistance through the Office of Financial Aid.

Sterilite Corporation Scholarship is awarded to a student who demonstrates financial need.

Student Government Association Scholarship are available to sophomores, juniors, and seniors with a grade point average of 2.2 or higher and a record of student leadership.

Senator Paul E. Tsongas Scholarship Program is awarded to entering students who are high achievers and Massachusetts' residents. The scholarship is in the amount of tuition and fees and is renewable with a 3.3 grade point average.

VNA (Visiting Nurses Association) Trust Scholarship is awarded to a Nursing major by the Nursing Department.

Class of 1955 Scholarship is available annually to a full-time student of FSC.

Class of 1967 Scholarship is available annually to an FSC student chosen on the basis of academic merit and financial need.

Fitchburg State College Scholarships Named in Grateful Recognition of their Benefactors

Ken and Cherie Ansin Scholarship is awarded to a non-traditional Human Services undergraduate student.

Matti N. Antila Poetry Award is awarded annually to a junior for a poetry composition. The award is made possible by Lauri and Signe Sipila in memory of Signe Sipila's parents, Matti N. and Fanny P. Antila.

W.E. Aubuchon, Jr. Scholarship, is awarded to an FSC student selected by the Financial Aid Department

Leo J. Bourque Memorial Scholarship is awarded to a full-time undergraduate, who is at least a three-year resident of Leominster and who demonstrates financial need.

Richard E.T. and Linda A.C. Brooks Scholarship in memory of Elmer V. and Eileen M. Brooks. Seven available annually to students who meet the following criteria: (a) financial need (b) academic promise based on actual high school record (c) intent to major in a science degree program (preference to Chemistry but not limited to) and (d) interest, based on high school actual performance, in participating in varsity athletics. Preference is given to the children of employees of ChemDesign.

Mary F. Burnham and Mary Frances Burnham Scholarship Fund is available to full-time undergraduate students who have completed at least one semester at Fitchburg State. Students must be currently working to support their education. Those who demonstrate financial need preferred.

Stephen W. Clair Memorial Scholarship is awarded to a student with financial need who is a Geography/Earth Science major, has earned at least 30 credits, has at least a 3.0 GPA, and is an active member of the Geography Club.

William E. Clark III Memorial Scholarship is awarded to a student who evinces academic achievement, financial need, and the potential to succeed.

Roberta A. Fitzmaurice Connors '63 Scholarship is awarded to a full-time student in the early childhood education program who demonstrates the ability to be an outstanding early childhood educator.

Garrett Conrad Scholarship is awarded annually to a student with a disability. Applicants must be registered with Disability Services; qualify under ADA; enrolled for at least six credits each semester, and have completed at least one semester at Fitchburg State College. Preference is given to students with an outstanding record of service and commitment to the college and community.

The Elaine T. Coyne Women in Film Scholarship is available to a female student under criteria established by the Communications/ Media department.

Wallace Cunningham Scholarship is awarded to a student with a demonstrated financial need and whose academic record proves high achievement.

Dr. Edward T. Donnelly Scholarship is available annually to a full-time undergraduate student with a teacher education major or minor and a demonstrated financial need.

Ethel P. Mandrus Donohue '41 Endowed Scholarship is awarded to a first-year student from Hampden County who will major in special education. Additional selection criteria include a minimum grade average minimum of 3.0 and demonstrate school and community participation.

Henry Frank Scholarship is awarded to full-time entering freshmen and transfer students from Norwalk, Connecticut, or from within a fifteen-mile radius of Orange, Massachusetts. Preference is given to the former and selection is based on academic achievement.

Fitchburg Mutual Insurance Company W. Bruce Adams Scholarship is available annually to a graduate of a public high school in one of the following towns: Ashburnham, Ashby, Fitchburg, Leominster, Lunenburg, or Westminster, who meets income (adjusted gross income $40,000–$60,000) and academic (3 pt. average or better on a four pt. scale) criteria.

Donovan Engineering & Construction Co./Bud Greenwald Scholarship is awarded annually to a senior majoring Industrial Technology with a construction Technology concentration, a minimum 3.2 GPA, and the desire to enter the construction profession.

Wayne J. Griffin Electric Inc. Scholarships (2) are tuition (in-state) and fees scholarships, awarded to full-time, upper-class students who are majoring in Industrial Technology/Construction Technology, maintain a 3.2 GPA, and plan to enter the construction technology fields.

Grace Gummo Nursing Scholarship is awarded to deserving students in the Nursing Program.

Patrick and Mary Hammond Band Scholarship is awarded to a full-time undergraduate student chosen as the outstanding member of the Fitchburg State College Band.

The Patricia A. Hess '94 Memorial Scholarship is awarded annually to a female, non-traditional student who has been out of high school for at least ten years. The recipient must be an undergraduate English and/or History major with a minimum of 3.0 GPA and 30 credit hours and demonstrates a love of learning and will be based upon merit. Awarded by the Financial Aid Committee with the recommendation of the Social Science Department faculty.

The Walter F. Harrod '40 Scholarship is awarded as a one-year renewable scholarship when supported by sustained academic performance and evidence of good character. The recipient must be a junior industrial technology major with a minimum 2.8 GPA and who has earned at least 90 credit hours and demonstrates the desire and capacity to enter the professional field within industrial technology. Financial need may be used in awarding the scholarship and will be awarded by the Financial Aid Committee with the recommendation of the Industrial Technology Department.

Jeanne M. Joyal '53 Endowed Scholarship provides scholarship assistance to a resident of Western Massachusetts who will be a first-year student and major in elementary education. The recipient must possess a minimum of 3.0 GPA in high school and demonstrate school and community participation.

Leo J. Hines Memorial Scholarship is awarded to a qualified English major demonstrating academic excellence.

Kirkpatrick-Percival Scholarship is awarded to an outstanding senior Psychology major.

Jacqueline LaCoy Scholarship offers the opportunity for returning communications/media students to work closely with television production faculty. Priority is given to students with a record of television production excellence, previous departmental service, and an interest in teaching television production.

LeBlond-O'Sullivan Memorial Scholarship is awarded to full-time juniors or seniors with financial need and a record of service to the college.

Ruth Lee Scholarship is available annually to a student from the North Central Massachusetts Region, (one of the cities and towns included in the North Central Mass. Chamber of Commerce membership), on the basis of academic merit.

Myra McGuirk-Bonitz Scholarship is available annually to an undergraduate student graduating from a high school within the Fitchburg city limits who has chosen education as a major field of study.

Buddy McMurray Good Fellowship Award is given to a student whose contribution to the college is positive, salutary, and inspirational, as well as indicative of the goals he or she set by entering Fitchburg State.

John McNaney Memorial Scholarship is available to an outstanding Chemistry major.

Dorothy Meilinger Memorial Scholarship is awarded to seniors majoring in Special Education, who have a Grade Point Average of 3.5 or above and a demonstrated financial need.

Annette Rose Mitchell Scholarship Fund is awarded to a senior Nursing student who has maintained a 3.0 GPA for three years.

Flora D. Mulholland Memorial Scholarship is awarded to a Nursing major evincing high scholastic achievement and a demonstrated financial need.

Dr. Helen O'Flaherty Scholarship, in honor of a former professor, is awarded annually to a student majoring in Early Childhood Education who demonstrates financial need. Membership in a minority group will confer preference. The prior year recipient will automatically receive the award if he or she maintains satisfactory academic progress under college policies.

Kathleen Mary O'Neil Scholarship is awarded to a full-time female undergraduate student who is a citizen of the United States and has a class rank in the upper 50th percentile.

The Owens-Mara Award is available to an elementary education major completing junior level work during the spring semester and selected by the education department based upon promise as a future elementary leader.

John L. Powers Memorial Scholarship is awarded to an Industrial Technology major who has maintained at least a 2.0 GPA and demonstrates financial need.

Clifford Querolo Scholarship is awarded to a student in the Industrial Technology Program or to a student who intends to teach industrial, vocational, or occupational education.

Michael P. and Barbara Riccards Scholarship is available annually to an undergraduate student on the basis of financial need and academic record.

Louis P. Shepherd Award in Creative Writing is given annually for the year's best student portfolio of creative writing. The award is named in honor of the late Louis P. Shepherd, a longtime English professor at Fitchburg State College, and made possible through a gift from Professor Shepherd's wife, Ruth, and his daughter, Rae Shepherd-Shlechter.

M. Lillian Smith Scholarship is awarded to a student in the Education Program.

Special Education Scholarship is available annually for a Special Education major student with a 2.7 average in the major who has a financial need and is active in the Special Education Club.

Daniel J. Sullivan Scholarship is available to students demonstrating financial need.

Philip J. Tardanico Scholarship is awarded to a junior enrolled as an Industrial Technology major. The scholarship is based on academic excellence, enthusiasm for and commitment to a career in teaching; strong moral character, and financial need. A letter of reference must be submitted from a faculty member in the Industrial Technology Department.

The Lillian Evensen Templeton Book Fund is awarded annually to a male student and a female student toward the purchase of books. The award is divided equally between the two recipients who must exhibit financial need and reside in Templeton, Mass. (Baldwinville, Otter, River, East Templeton, or Templeton Center.

Michael Vignale Memorial Scholarship/Trust Fund is available to a Chemistry major.

Dr. Burnham Walker Memorial Scholarship is awarded to a full-time student majoring in Biology, Chemistry, Nursing, or Clinical Lab Sciences. Awards are based on financial need and academic achievement.

Lara A. Willard Memorial Scholarship is available annually to a female undergraduate nursing student based upon achievement, a demonstrated financial need, and the potential to succeed.

Carl T. Witherell Scholarship is awarded to a full-time undergraduate enrolled as an Industrial Technology major.

Xarras Scholarship is awarded to a full-time undergraduate student. Preference is given to graduates of Fitchburg High School.

Ying Jean and Sui King Yee Endowed Scholarship is awarded to a first-year Asian-American student and based upon an excellent scholastic record and demonstrated participation and achievement in school and community activities.

Student Loans

Student loans are long-term, low-interest loans, which come due only after graduation, withdrawal from the college, or upon less than half-time enrollment. Student eligibility for these loans is based on financial need and availability of funds. To apply for the loans indicated below both the FAFSA and FSC Application for Financial Aid are required. Once students are awarded a loan or loans, additional paperwork is required.

Federal Perkins Loan

- Low-interest (5%) loan from the federal government and FSC
- Repayment begins nine months after the student either leaves school or drops below half-time status
- Provisions for deferment, postponement, or cancellation are available for some specialized areas

Nursing Student Loan

- Assists students who are furthering their education in Nursing
- Low-interest (5%) loan from the federal government
- Repayment begins nine months after a student leaves school or drops below half-time status
- Provisions for deferment, postponement, or cancellation are available for some areas

For more information about repayment and deferment contact the Loan Collections Office, located in the Treasurer's Office.

Massachusetts No-Interest Loan Program

- Zero interest loan from the Commonwealth of Massachusetts
- Repayment begins six months after a student leaves school or drops below half-time status

Federal Direct Student Loan Program (also known as the Stafford Student Loan)

Enables students with a demonstrated financial need to apply for a loan directly to FSC, instead of applying through a bank. If a student qualifies for a **Subsidized Direct Loan**:

- The federal government pays the variable interest rate on the loan while the student is in school
- Repayment begins six months after graduation, withdrawal from classes, or upon less than half-time enrollment

An **Unsubsidized Direct Loan** is available to students who do not demonstrate financial need or who are eligible to borrow additional funds beyond the subsidized loan:

- Loan has the same low variable interest rate as the Subsidized Loan
- Federal government does not make interest payments on behalf of the student
- Interest on the loan accrues once the loan is made. The interest payments can be deferred or paid while the student is in school.

For information on other educational loans, interest rates, eligibility standards, and requirements, applicants should contact the Financial Aid Office.

Student Employment

The college advocates 'earning while learning' as a supplement to the gift aid and loan components of a student's financial aid package. The current work programs include:

Federal Work Study

- Federally funded part-time employment on campus
- Students are paid an hourly rate every two weeks for time worked
- Hours to work are available during the academic year, holidays, and the summer
- Open positions are posted in the Financial Aid Office

Fitchburg State College Employment

- Part-time on-campus employment for a limited number of students
- Payment is according to the salary rate offered with the position
- Open positions are posted in the Financial Aid Office

Off-Campus Employment

The Career Services Center, located on the third floor of the Hammond Building, provides listings of part-time positions from the local community.

- Positions are posted on a bulletin board in the G-Lobby of the Hammond Building
- Flexible hours are offered to accommodate academic commitments

Eligibility for Financial Aid

Determining Financial Need

Although Fitchburg State College does not set the standards to measure financial need, the Financial Aid Office will help students and their families with the process of applying under Federal and State guidelines. No student should assume that he or she is ineligible for financial aid. All students, regardless of family income, are encouraged to apply.

A student's financial need and financial aid eligibility is based on careful review of the information provided on the Free Application for Federal Student Aid (FAFSA) and the Fitchburg State College Application for Financial Aid. **Financial need** is based on the difference between expected **educational costs** and the **family or student contribution** toward those costs.

Educational costs vary according to the individual circumstances of the student, and include such items as tuition, fees, room and board, books, supplies, transportation, and personal expenses.

Family or student contribution is determined by the Federal formula known as Federal Methodology (FM), which factors in such items as income, assets, number in household, and number in college. As a result, the amount of family contribution may vary, even between households having approximately the same income.

Student Financial Aid Budgets

A student's financial aid budget is based on his or her cost of education, which includes both direct and indirect expenses.

Direct expenses are paid by the student to the college, including tuition, fees, and room and board (for on-campus students). These expenses are set by the college and the Commonwealth.

Indirect expenses are those over which the student has some control, including books, supplies, transportation, personal/miscellaneous, and room and board (for off-campus students). These expenses are based on estimated costs for students at FSC.

A typical budget for a full-time undergraduate student living in a residence hall for the 2000-2001 school year is:

Tuition	$1,030
Fees	1,928
Room	2,650
Board	1,950
Books/Supplies	600
Transportation	350
Personal/Misc.	*1,500
Total	**$10,008**

* includes health insurance expense

A typical budget for a half-time continuing education student for the 2000-2001 school year is below:

Tuition	$1,320
Fees	194
Room (off-campus)	2,475
Board (off-campus)	1,950
Books/Supplies	300
Transportation	500
Personal/Misc.	1,500
Total	**$8,239**

A typical budget for a graduate student carrying six credits each semester for the 2000-2001 school year is:

Tuition	$1,800
Fees	214
Room (off-campus)	2,475
Board (off-campus)	1,950
Books/Supplies	300
Transportation	1000
Personal/Misc.	1,500
Total	**$9,239**

Not all students will spend exactly these amounts. Budgets will vary depending on enrollment and housing status.

Students are awarded financial aid based on their total budget. When the money for a student's financial aid is actually received at the college, it is first used to satisfy the student's direct expenses. Once a student's bill with the college is satisfied, the balance of his or her aid is available and may be used to satisfy any indirect expenses the student may have.

Students should plan to start the semester with enough money for books and at least the first two month's rent (if living off campus). Financial aid refunds will not be available to cover these expenses. The Treasurer's Office will notify the student about which aid has been received, which aid has been used to satisfy their bill, and which aid (if any) is available for their use.

Satisfactory Academic Progress

Eligibility for continued financial aid for a returning student is based on need (as detailed above) and Satisfactory Academic Progress (SAP). SAP is the **qualitative** and **quantitative** measurement of progress toward the completion of a course of study according to the standards of the college. Students are solely responsible for maintaining their academic progress. Those who have not done so will be notified of their ineligibility for financial aid during the award letter process.

SAP standards apply to all matriculated students.

Qualitative measure: students must maintain an appropriate cumulative Grade Point Average according to the regulations listed below.

To be in good academic standing, full-time undergraduate students must meet the following standards:

- Freshmen (0-29 credits) must maintain an overall cumulative GPA of 1.6 or higher at the end of two semesters.
- Sophomores (30-59 credits) must maintain an overall cumulative GPA of 1.8 or higher.
- Students with 60 credits or more must maintain a 2.0 cum to remain in good standing

Quantitative measure: based on credits successfully completed during the academic year, which runs from fall through the following summer.

- Full-time students must successfully complete 20 credits during each academic year
- Part-time students must successfully complete 67% of the number of attempted credits for each part-time semester

Students who have been denied financial aid because they were not making satisfactory academic progress may again receive aid the semester after attaining satisfactory academic progress.

It is the responsibility of the student to officially notify the Financial Aid Office of any changes to their academic standing. Aid cannot be awarded until this official notification is received.

Appeal Process

Students have the right to appeal to have their financial aid reinstated under the following circumstances:

- If extreme circumstances during the course of the academic year have impacted a student's academic progress, then a letter of appeal may be submitted to Academic Affairs
- If a student has not met the requirements but has demonstrated academic progress, a letter of appeal may be submitted to the Director of Financial Aid

These appeals will be reviewed by the Dean of Undergraduate Studies. If the Dean determines that the student is making significant academic progress, he or she may be granted a one-semester probationary period to make up course work. Winter and/or summer sessions may be used to make up credits or improve cumulative GPAs.

Aid for Veterans

U.S. Veterans are entitled to certain financial aid benefits at FSC. While all veterans are urged to keep informed about benefits available to them through the Veterans' Administration, they should contact the Registrar's Office to establish eligibility for such benefits. The Registrar's Office will provide the veteran with an Application for Benefits or the Change of Place of Training Form, whichever is applicable. Along with an application, the veteran needs to provide the following documents for the Registrar's Office:

- a DD214 Form notarized by a Veteran Notary
- his or her marriage certificate
- birth certificates for each dependent child

All veterans, whether or not exempt from paying tuition, must pay all fees.

For more information on Veterans' Education benefits write to:

Regional Office
Department of Veteran Affairs
JFK Federal Building, Government Center
Boston, Massachusetts 02203

Some Vietnam and Desert Storm veterans from Massachusetts are entitled to attend Fitchburg State College on a no-tuition basis.

Additional information may be obtained from:

The Commonwealth of Massachusetts
Department of Education
1385 Hancock Street
Quincy, Massachusetts 02169

Or, call the hot line at 1-800-827-1000.

IMPORTANT: As of July 1997, no new graduate student will be issued veterans' vouchers.

The Office of Graduate and Continuing Education will continue to issue veterans' vouchers through June 30, 2001 to graduate students who matriculated in degree programs prior to July 1997.

Financial Aid for Graduate Students

Graduate students are advised to review the complete financial aid section of this catalog beginning on page 29. Consult the Financial Aid Office for eligibility requirements.

Graduate Scholarship Program

Graduate scholarships are available in varying amounts. Scholarships are awarded in the form of tuition and fee waivers. For application deadlines, processes and procedures the student should contact the Graduate Office.

Dean's Graduate Scholarship

This award recognizes and honors graduate students who have achieved academic excellence in the course of their graduate studies. Scholarships in varying amounts, ranging between $55 and $1,800, are awarded annually in the form of tuition and fee waivers.

Eligibility

- Students who have applied to a graduate program at Fitchburg State College and have an undergraduate GPA of 3.5 or better
- Graduate students enrolled in a graduate program, have a GPA of 4.0, and are recommended by their Graduate Advisor or the Program Chair

Application and Selection Process

To apply for the Dean's Graduate Scholarship Awards, students must submit:

- Completed Scholarship Application
- Current Dated Resume
- Two letters of recommendation including at least one from a graduate advisor or graduate program chair
- Academic record/transcripts

The application and supporting materials should be mailed by **February 1st** to the Dean of Graduate Studies.

The Carla Borg Scholarship

Available annually for a graduate student in special education who has demonstrated exemplary skills in including students with special needs as part of their school/community.

Dorothy Holmes Toporeck Graduate Scholarship Program

This award recognizes and honors students who have demonstrated scholastic excellence in their undergraduate studies and who are pursuing a Master's Degree at FSC. The scholarship is only available to graduates of the FSC undergraduate program.

The amount of the award is determined annually. Scholarships are awarded in the form of tuition and fee waivers and may be used over a period of two years.

Eligibility

Candidates must have completed their undergraduate degree at FSC with a 3.25 GPA or better, and have been accepted into a graduate program at the College.

Students currently enrolled in a graduate program must have a GPA of 3.75, an undergraduate GPA of 3.25 or better, and be recommended by their Graduate Advisor or the Program Chair.

Application and Selection Process

To apply for the Dorothy Holmes Toporeck Graduate Scholarship, students must submit:

- Completed Scholarship Application
- Current dated resume
- Two letters of recommendation, including at least one from a graduate advisor or graduate program chair, if currently a graduate student, and one from an FSC faculty member if a student is just entering a graduate program
- Academic record/transcripts

The application and supporting materials should be mailed by **February 1st** to the Dean of Graduate Studies.

All scholarship applications are reviewed by the Graduate Council and recommendations are made to the Dean of Graduate Studies. Once award recipients are chosen, they are notified by the Dean and an announcement is made at the Honors Convocation in April.

For further information or applications, contact the Graduate and Continuing Education Office.

Graduate Assistant Program

Newly admitted and current graduate students are eligible to apply for Graduate Assistantships. The maximum amount of the award is $5500 for the academic year. The appointment and award includes a tuition waiver for 24 semester hours of graduate course work for the academic year of the award (excluding Independent Studies). Graduate Assistants must pay all fees.

Qualifications

Newly accepted graduate students seeking appointments to Graduate Assistant positions must have an undergraduate GPA of 3.0.

Continuing Graduate students must have a graduate GPA of 3.0.

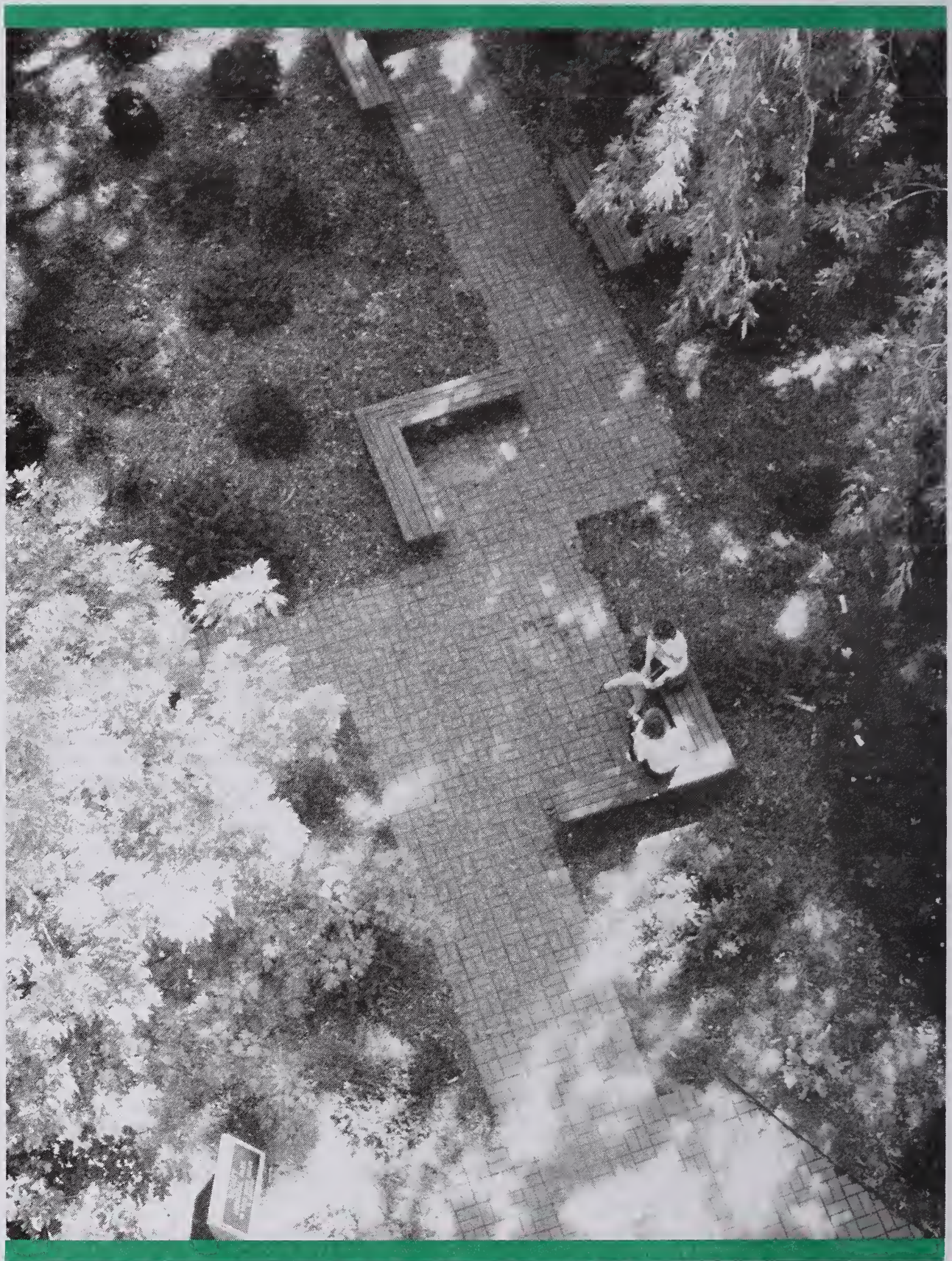
Application

A completed application form, resume, and an unofficial transcript must be submitted by the applicant to the Human Resource Coordinator, Office of Graduate Studies, no later than the second week of May.

Load and Academic Requirements to Maintain Assistantship

- Graduate Assistants must carry a load of six semester hours of graduate work per semester in their program, which is considered full time. Overloads may be petitioned to the Dean
- Graduate Assistants are required to work up to 20 hours per week, which is considered a full-time work schedule
- Graduate Assistants are not allowed to secure a second position on campus

Undergraduate Academic Policies and Procedures



All students at FSC are expected to be familiar with and act in accordance with academic policies and procedures. The policies are interpreted and administered by the Dean of Undergraduate Studies. Students acting outside of these policies may be subject to administrative action. Special consideration may be given to students admitted or later identified as physically handicapped, learning disabled, or economically or educationally disadvantaged.

General Course Requirements

To fulfill requirements for a Bachelor's Degree, students must complete the requirements of the Liberal Arts and Sciences Program (explained in the Curriculum section of catalog) as well as the requirements for their major.

The Major

Undergraduate degree candidates must declare and complete a major in one program of study offered by the college. Requirements for undergraduate majors are described in the Undergraduate Day Programs and Undergraduate Evening Programs sections.

Declaring a major

Students may declare a major when they are admitted to the college. If a change of major is desired, students must complete a change of major card available in the Registrar's Office.

Pre-Majors (undeclared)

Students with 60 semester hours of college course work must apply for and be admitted to a major prior to registering for additional courses.

Transfer students with 60 or more credits when admitted as "Pre-Majors" have until either October 1 or March 1 of their first semester at Fitchburg State College to declare their major.

Requirements for a Major

A 2.0 cumulative GPA and 2.0 GPA in courses in the major are the minimum requirements for both admission to and completion of all major programs. Some majors, however, may have requirements higher than a 2.0 GPA in major courses for either entrance or completion.

Dismissal from a major

Students not making satisfactory progress in completing the academic requirements of the major may be asked to select another major.

Professional programs of study may require a departmental review of students to determine if they are qualified to continue in the major. If in the review process the student is judged as unsuitable for the profession, regardless of academic standing, the student may be asked to select another major.

Successful completion of an academic program in any major field or professional program does not obligate the faculty to recommend licensure or certification, even if the candidate is awarded the academic degree.

Grading Policy

Grades are awarded on a numerical scale as follows:

4.0	A	Excellent
3.5	B+	Very Good
3.0	B	Good
2.5	C+	Above Average
2.0	C	Average
1.5	D+	Below Average but Passing
1.0	D	Well Below Average but Passing
0.0	F	Failing
	IN	Incomplete
	W	Withdrawn
	AU	Audit
	S	Satisfactory
	U	Unsatisfactory

All grades except 0.0, U, IN, W, and AU are passing grades and earn credit toward the degree.

Computing quality points and cumulative GPA

- **Quality Points** = semester hours (s.h.) carried by the course multiplied by numerical grade. *(For example, a three-credit course with a grade of 3.0 would earn nine quality points.)*
- **Cumulative grade point average** = total quality points earned in all courses divided by total credit hours completed

Repeating Courses and Grade Substitution

- A student may repeat **once** any FSC course for which a 0.0, 1.0, or 1.5 is earned. Courses repeated must be taken at FSC and, if at all possible, should be taken within the following year.
- The grade for a repeated course (except in the case of second grade option*) will be computed along with the original grade in the cumulative grade point average, but no additional credits will be applied toward graduation requirements.
- The repeated course will be indicated as such on the student's transcript.
- "Second grade option" allows only the grade earned when a course is repeated to be used in the calculation of a grade point average, and only the credits earned for the repeated course to apply toward graduation requirements.
- Only courses that fall within the student's first 30 attempted credits taken at the college may be selected for this option. The student must exercise the second grade option no later than the next two semesters for which the student registers after completing 30 credits.

- Transfer students may exercise the second grade option for courses taken during their first semester at the college. This option must be exercised during the next two semesters for which they register after their initial semester at the college.
- All grades earned for a given course will remain on a student's permanent academic record, which will indicate those courses repeated under the second grade option.
- To take advantage of second grade option, students must obtain approval from their advisor and file the appropriate paperwork with the Registrar prior to midterm of the semester in which the course(s) is being repeated.

Satisfactory and Unsatisfactory Grades

Any course can be taken for an S/U grade with the following exceptions:

- Courses required for a major unless the department has designated them as acceptable.
- Courses taken to fulfill the LA&S writing requirement.
- Courses taken to fulfill the LA&S mathematics proficiency requirement.

and with the following limitations:

- A maximum of 12 credits of S/U can be applied toward the minimum credits required for a degree.
- Only one course in each LA&S cluster may be taken S/U.
- No more than two courses in any discipline (as identified by course-number prefix) may be taken S/U.
- Only one course per semester may be taken S/U.
- No quality points are awarded with the S/U grade.

Students must request the S/U option by the Add/Drop deadline. Once recorded, the designation cannot be changed.

Incomplete

- An Incomplete (IN) is given in lieu of a grade if a student has successfully completed at least 80% of the required course work but cannot complete the rest due to certifiable illness or the death of an immediate family member.
- Students must complete the required course work by the end of the **fourth week of classes** of the following semester in order to receive a grade; otherwise the IN is automatically changed to a grade of 0.0.
- While an IN is not counted in determining academic status, it may have an impact on eligibility for financial aid and athletic participation.
- Grades that result from the fulfillment of an IN will not remove a Probationary, Suspension, or Dismissal status, nor will they count toward Dean's List or President's List eligibility.

Audit

- An Audit (AU) is entered into the transcript to indicate that a student has been officially enrolled in a course for neither grade nor credit.
- Students who wish to audit a course during the day must record the audit designation with the Registrar's Office by the end of the Add/Drop period.
- Students who wish to audit a course during the evening must register the audit designation with the Office of Graduate and Continuing Education before the third class meeting.

Withdrawal from a Course

- If a student officially withdraws from a course by the end of the eighth week of classes, or prior to the seventeenth class hour for classes in Continuing Education, a W (Withdrawn) is entered on the transcript. No credit is awarded for the course, and it does not affect the cumulative GPA.
- If the student officially withdraws after the end of the eighth week of classes, a grade of 0.0 is entered on the transcript. A waiver is sometimes granted for documented, critical extenuating circumstances.

Transcripts

Transcripts are prepared upon submission of a transcript request form. Please include your social security number, name, address, dates of attendance, and degree area. Transcripts are free of charge.

To obtain a transcript write to:

Office of the Registrar
Fitchburg State College
160 Pearl Street
Fitchburg, MA 01420-2697

Attendance

Each instructor has the prerogative to place a value upon class attendance and must inform the class of that value early in the semester. The instructor's class-attendance standard should be stated in the course syllabus. If a student is absent from a class meeting, the student is required to produce appropriate documentation for the instructor's review.

Section 2B of Chapter 151c of the General Laws of the Commonwealth of Massachusetts reads as follows:

Any student in an educational or vocational institution, other than a religious or denominational educational or vocational training institution, who is unable, because of religious beliefs, to attend classes or to participate in any examination, study, or work requirement on a particular day shall be excused from any such examination or study or work requirement, and shall be provided with an opportunity to make up such examination, study, or work requirement which may have been missed because of such absence on any particular day; provided, however, that such makeup examination or work shall not create an unreasonable burden upon the school. No fees of any kind shall be charged by the institution for making available to the said student such opportunity. No adverse or prejudicial effects shall result to students who avail themselves of the provisions of this section.

Academic Standing

All courses completed at Fitchburg State College, including those taken during winter or summer sessions, determine current academic standing. The grades and credit for wintersession courses are included in the following spring semester's GPA and for summer session courses in the following fall semester's GPA.

Credits transferred from another institution are applied to a student's total number of credits earned, but grades earned from transferred credits are not calculated into the cumulative GPA.

Good Academic Standing

To achieve good academic standing, students must:

- Maintain an overall cumulative GPA of 2.0 or higher
- Maintain a cumulative GPA of 2.0 or higher in the major
- Meet any additional requirements of the major which have been approved by the All-College Committee and are consistent with college policy

Honors

Fitchburg State College honors students who have high academic achievement throughout their college career as well as at graduation. The honors are:

President's List

Honors students for consistently high academic achievement. Students are named to the President's List when they have attained a semester average of 3.75 or higher for three successive semesters while maintaining full-time status.

Dean's List

Honors students who have attained an average of 3.2 or better for the semester while maintaining full-time status

Summer Dean's List

Students taking 12 semester hours or more through Continuing Education during the summer sessions who maintain an average of 3.2. These students can be named to the President's List if they meet the specified cumulative average.

Graduation Honors

Graduation honors recognize outstanding academic careers as signified by a high cumulative average. To graduate with honors, a student must have completed **at least 60 credits** with a numerical grade at the College.

Summa Cum Laude honors students who graduate with a cumulative GPA of 3.8 or higher.

Magna Cum Laude honors students who graduate with a cumulative GPA of 3.5 to 3.79.

Cum Laude honors students who graduate with a cumulative GPA of 3.2 to 3.49.

Special Distinction is given to students who have completed the Honors Program and a senior thesis.

Probation

If a student's cumulative GPA falls below 2.0 at the end of any semester, that student will be placed on probation. **To avoid suspension the student must meet the following criteria:**

- A student on probation who has attempted fewer than 33 semester hours and who has maintained a cumulative GPA of 1.6 or higher for two semesters may enroll for a third semester to improve academic standing.
- A student on probation who has attempted 33 to 59 semester hours and who has maintained a cumulative GPA of 1.8 or higher for four semesters may enroll for a fifth semester to improve academic standing.
- A student who has attempted 60 semester hours or more must maintain a GPA of 2.5 or higher for every semester while on probation.

Students on probation must:

- Meet with their academic advisors before the start of the second week of each semester to review current course load and arrange periodic meetings throughout the semester
- Contact the Academic Advising Center during the first two weeks of the semester
- Utilize the many resources the college offers, including faculty, Counseling Services, Academic Success Center, PASS Program, Expanding Horizons, Career Services, and other support systems, as needed

Students placed on probation for the first time will remain eligible to:

- Hold elected or appointed office
- Serve on campus committees
- Participate on athletic teams (provided academic progress meets the criteria in Section 1)

Any additional probations will disqualify a student from eligibility for these activities.

Students who voluntarily withdraw from the college while on probation will remain on probation if they are readmitted.

Students who maintain the college's academic standards for probation must also meet the financial aid and athletic eligibility requirements for satisfactory academic progress. (Financial aid and athletics have additional academic requirements for probationary students. Students should consult the appropriate office to determine their eligibility.)

Suspension

Any student who earns a grade point average of 1.0 or lower in his/her first semester of full-time study at Fitchburg State College will be suspended from the college. In all other cases, students will be suspended if they have spent at least one semester on probation and do not meet the following GPA and credit criteria:

- A student who has attempted fewer than 33 semester hours and has a cumulative GPA below 1.6 after two semesters
- A student who has attempted 33-59 semester hours and has a cumulative GPA below 1.8 after four semesters
- A student who has attempted 60 or more semester hours must maintain a 2.5 GPA each semester until removed from Probationary status

Suspended students are not eligible to enroll in any credit course in any division of Fitchburg State College for at least one semester.

Following suspension, students must submit a letter requesting re-admission before the deadline established by the Registrar. Students who are readmitted after a suspension will continue on probation.

Suspension status is not changed by a voluntary withdrawal.

Dismissal

Once students have been readmitted after a suspension, they must meet probationary standards for enrollment to avoid dismissal.

Dismissal status results in permanent dismissal from all divisions of Fitchburg State College. A dismissed student may not enroll in any credit courses in any division of the college for a period of 5 years.

Credit Elimination Policy

The Credit Elimination Policy applies to students who leave the College and desire to return after five or more calendar years. Such students may eliminate all or part of previously earned credits from their transcripts, in units of one semester or more. When a particular semester of credit is designated to be eliminated, all credits from this semester must be eliminated.

This policy requires that:

- Credit elimination may only occur once
- A request for credit elimination must be in writing
- The Undergraduate Dean must approve the request

Transfer Credit

Credit received for courses completed at other regionally accredited institutions of higher education may be transferred to Fitchburg State College and applied toward degree programs if:

- The courses are equivalent to courses offered by Fitchburg State College or appropriate to programs at Fitchburg State College
- The grade received was at least a 2.0 (C) or higher

Credit for courses transferred with passing grades below 2.0 may be approved in exceptional circumstances or if the credits are included as part of an Articulation Agreement/Associate's Degree program covered by the Commonwealth of Massachusetts Transfer Compact or the Joint Admissions Program.

- A maximum of 60 SH credit from 2 year institutions, college level examinations, military will be considered for transfer
- A maximum of 75 SH of credit will be considered from 4 year baccalaureate institutions

Value of transferred credit

- Transferred credits count only as credit hours earned
- No quality points or grades are transferred or calculated in the student's cumulative GPA
- A minimum of 45 semester hours toward a baccalaureate degree must be completed at Fitchburg State College
- No more than 50% of major credits and 50% of minor credits can be completed as transfer credits
- Major departments may have additional requirements

Approval of transfer credit may be authorized by the Registrar, the Undergraduate Dean, or the Graduate Dean.

Academic Dishonesty Policy

Academic dishonesty in all its forms, including cheating, fabrication, plagiarism, and the facilitating of academic dishonesty by aiding and abetting any of the aforementioned, is not tolerated at Fitchburg State College. Violators will be subject to the following process.

Step One Procedures

- Within ten days of the discovery of the alleged offense, the faculty member involved will contact the student, inform him/her of the circumstance in question, and arrange a meeting to discuss it.
- If the faculty member finds the student responsible for the alleged behavior, he/she will write a statement, either during the meeting with the student or within seven days of it, indicating the alleged dishonesty, his/her judgment regarding it, and the sanctions, if any, to be imposed.
- If the student is found not responsible, he/she will be notified in a statement written by the faculty member as described above.
- In either case, the student will sign the statement, indicating either that he/she accepts the outcome or that he/she has seen the statement but does not accept the outcome. The student gets a copy of this statement, and the faculty member retains the original as part of his/her records for the class.

Students found responsible for the alleged behavior based upon the evidence presented may be subject to one or more of the following sanctions by the faculty member:

- Be required to complete additional course requirements; this may include repeating part or all of the work in question.
- Receive a grade of 0.0 for the work in question.
- Receive a grade of 0.0 for the course
- Be referred to the department chairperson for transmittal of the case to the Committee on Academic Dishonesty. If the referral is made at a time when a grade is due to the Registrar, the faculty member will submit an Incomplete for the student.

Step Two

When the faculty member has taken the action described under #4 above, the faculty member agrees that the disposition of the case, including the imposition of any actions, will be determined by the Committee. Once a case is referred to the Committee on Academic Dishonesty, the procedures and timelines of the Student Judicial Code apply.

The Academic Dishonesty Committee is composed of two faculty members appointed for a one-year term by the MSCA faculty union, two student members of the Student Conduct Board, and an administrator from the Office of Academic Affairs, who will chair the committee.

Step Three

When the student believes that the accusation made and/or the sanctions imposed by the faculty member are unfair, he/she may take the case to the department chairperson. The chairperson will arrange a meeting with the student and the faculty member. Within ten days of this meeting, the chairperson will notify the student and the faculty member in writing of his/her opinion on the case.

If the student is dissatisfied with the outcome of an appeal to the chairperson, he/she may appeal the case to the Committee on Academic Dishonesty. This process is initiated by contacting the Dean of Undergraduate Studies or another administrator in the Office of Academic Affairs.

Cases may be referred directly to the Committee when the student(s) accused of academic dishonesty is not in the class of the discovering faculty member or when a student(s) wants to bring a case against another student(s).

Students found **responsible*** for the alleged behavior by the Committee may be subject to the following actions:

- Have the sanction(s) imposed by the faculty member lessened
- Have the sanction(s) imposed by the faculty member upheld
- Receive a grade of 0.0 for the work in question
- Receive a grade of 0.0 for the course
- Be required to perform some kind of service to the college community
- Be referred to the President of the college with a recommendation of Suspension
- Be referred to the President of the college with a recommendation of Expulsion

Students found **not responsible*** for the alleged behavior by the Committee will be recompensed in one or more or all of the following ways:

- All work which had been in question will be accepted
- The sanction(s) imposed by the faculty member will be removed

An opportunity to redo part or all of the assignment or exam in question will be granted when the Committee finds that a seeming act of academic dishonesty was unintentional and the result of a lack of understanding of proper procedure.

* Rules of Evidence do not apply in college hearings. Evidence "beyond a reasonable doubt" is not necessary for a student to be found responsible. The Committee will be asked to determine, from the case presented by both sides, which side has more evidence to support its position.

Undergraduate Day Policies and Procedures

Course Registration

Approval of Course Schedule

Prior to course registration each semester, students must meet with their advisor to review their academic progress and to develop a course schedule for the upcoming semester. Advisors must approve course selections before the student is permitted to register.

Identification of Class Standing

For the purpose of registration and financial aid, the following classifications are identified:

Freshmen .....students with between 0-24 earned credits
Sophomores ..... students with between 25-48 earned credits
Juniors ..... students with between 49-72 earned credits
Seniors ..... students with 73 or more earned credits

Add/Drop

During the first five class days of the semester, students may either add or drop a course; during the sixth class day, students may only add courses. Although students may make changes to their schedule during the Add/Drop period without the approval of their advisor, they should confer with their advisor when making changes that affect their progress towards graduation or fulfillment of their major requirements.

Course Withdrawal

Through the eighth week of the semester, students may withdraw from courses and receive a W (Withdrawn). Appropriate forms are available at the Registrar's Office and must be signed by the course instructor, the faculty advisor, and, if the student is dropping below 12 semester hours, the Dean of Undergraduate Studies. Withdrawal after the eighth week results in a grade of 0.0.

Course Load

Graduation requirement: a minimum of 120 semester hours in all majors (See Undergraduate Day Programs)

Full-time status: a minimum of 12 semester hours each semester Students must maintain full-time status to remain eligible for financial aid, varsity athletics, academic honors, including Dean's List, participation in student governance, VA benefits, scholarships, and health insurance coverage. Both day and continuing education courses are included in calculating total semester hours.

Maximum allowable course load: 18 semester hours
Students registering for more than 18 semester hours (whether solely at Fitchburg State College or in conjunction with courses taken at another college) must have the permission of the Dean of Undergraduate Studies along with their major advisor. A student with a cumulative GPA below 3.0 will normally not be granted permission to register for more than 18 semester hours. Students taking overloads without permission may be denied credit for overload courses, regardless of grades earned.

Four-year undergraduate degree: at least 15 semester hours per semester are recommended for graduation in four years. Certain majors may require enrollment in specific courses or with specific course loads in certain semesters; students are responsible for understanding requirements for their major.

Program enrollment: Under certain circumstances, day program students may be permitted to enroll full time for a semester through the Continuing Education programs, and vice-versa. Approval for such enrollments must be granted by the Dean of Undergraduate Studies.

Withdrawal from the College

Students who withdraw from the college, either during or between semesters, must complete a withdrawal form available at the Student Affairs Office. Students who withdraw within the first eight weeks of the semester will receive a "W" in each course.

Students who leave the college after eight weeks of the semester will receive a grade of 0.0 or "U" in all their courses unless granted a waiver by the Dean of Undergraduate Studies for documented extenuating circumstances.

Students withdrawing in good standing may apply for readmission to the Registrar before May 1 for fall semester or November 1 for spring semester. Readmission is not guaranteed. The Registrar will consider academic, financial, and college discipline records, in addition to space available, when granting readmission.

Students must complete the registration process prior to the start of classes of the semester they wish to be readmitted.

Undergraduate Evening Policies and Procedures

Course Registration

Students must register for courses within the curriculum requirements as set in the College Catalog of the year of matriculation. However, it is the right of the college to alter the requirements to meet statutory, educational, or professional standards.

For regularly scheduled courses, students must register before the second class meeting. Early registration is recommended for all matriculated students and applicants in order to secure seats in the courses needed to proceed in degree programs. The regular registration period ends two weeks prior to the start of the semester, with "late registration" and late charges commencing thereafter. Please refer to the semester course bulletin for specific registration dates.

Senior Level–Graduate Credit Policy

A senior level student (90 semester hours or more) with a 3.5 GPA or better may register for Graduate credit courses at the 6000 level and above with the following restrictions:

- Approval must be obtained from the Dean of Graduate Studies or designee
- Combined Graduate and Undergraduate credit load in a semester is not more than 15 hours
- No more than three Graduate credits may be taken in a semester
- Recommendation of the appropriate Undergraduate Advisor and Registrar must be submitted to the Dean of Graduate Studies for approval
- No more than nine semester hours of Graduate credit may be accumulated by a senior. Graduate credits are applicable to maintain full-time status to receive financial aid
- Graduate courses taken toward undergraduate degree requirements cannot be transferred into a graduate program at Fitchburg State College

Scheduling of Courses

The Office of Graduate and Continuing Education schedules courses at times that are convenient for working adults. Schedules are created in the academic departments in consultation with the Office of Graduate and Continuing Education. Most courses are offered in the late afternoon or evening; some courses are scheduled on weekends. Winter session and summer session courses are scheduled during mornings, afternoons, or evenings.

Course Load

Fall and spring semesters: Maximum academic load is nine credit hours.

Winter session: Maximum academic load is six credit hours.

Summer session: The maximum academic load during the combined summer sessions is 12 credit hours.

Any student registering for credit beyond the normal load must submit a written request seeking approval from the Dean of Undergraduate Studies prior to registering by submitting an academic petition waiver form.

Course Changes

Changes to courses must be made before the second meeting. No change in credit is permitted after the second meeting. After the start of the second class meeting, the dropping of a class is considered a withdrawal. A change of credit to audit status must be made before the third class meeting of a course. (Class meeting is defined as 2.5 hours.)

Course Withdrawals

Withdrawals without academic penalty may be made prior to the eighth class for regularly scheduled courses and prior to the eighteenth class hour for special scheduling courses or institute courses. Course withdrawal is initiated by calling the Graduate and Continuing Education Office, or by visiting that office in the Sanders Administration Building. In either case, the student must receive a confirming copy of the completed Course Withdrawal Form. Any student who withdraws by simply not attending classes automatically receives a failing grade for the course.

Student Grievance

A student who is dissatisfied with a grade received or with any other aspect of instruction in a particular course is to confer with the Instructor, who will explain the reasons for awarding the grade. If such a conference fails to achieve a satisfactory resolution, the student may then appeal in writing to the Dean of Undergraduate Studies to adjudicate the situation.

Cancellation of Courses

The College may cancel courses for insufficient enrollment or for other reasons deemed to be in the best interest of the college. Students who sign up for a course which is canceled may transfer to another course or receive a full refund of tuition and fees.

Withdrawal from the College

A matriculated undergraduate student may initiate withdrawal from the college by completing an academic petition form obtainable through the Office of Graduate and Continuing Education. A student who does not register for a course for two years is automatically withdrawn. If the matriculated student decides to return to FSC, they need to initiate readmittance through the Registrar's Office.

Student Support Services

Fitchburg State College is committed to the academic success of its students. Several programs are available to advise, assist, and guide students, including individual advisors, the Academic Advising Center, and the Academic Success Center. Students are encouraged to consult with any or all of these programs throughout the academic year.

Academic Advising

The Advisor is a critical resource for all students during their academic career. Every student is assigned a faculty advisor. The advisor fulfills many important functions for a student, including:

- Being the primary resource in the planning of a course schedule each semester
- Advising students regarding any problem or concern involving their academic program

Advisor Availability

Undergraduates

All faculty have at least three office hours during the week set aside for meetings with their students. Hours are posted on doors of faculty offices, in the office of secretary of the major department, and are also available through the Office of Academic Affairs.

Graduate and Continuing Education Students

For general advising purposes faculty advisors are available each night, Monday through Thursday, during the semester. Appointments with advisors for general advising are made through the Office of Continuing Education.

Academic Advising Center

The Academic Advising Center specializes in assisting undergraduate day students who:

- Have not declared a major (31-60 credits)
- Challenge courses via Life Experience Credit Award Program (LECAP)
- Are experiencing academic difficulty
- Are needing help in interpreting specific academic regulations

The Center is staffed by two full-time administrators chosen for their specific expertise in assisting students to make the best possible use of their academic experience.

The Advising Center, located on the third floor of the Hammond Building, is supervised by the Associate Vice President for Academic Affairs.

Academic Success Centers

The college maintains a group of centers whose purpose is to assist those students who wish to increase their proficiencies in reading, writing, or mathematics; or who wish to sharpen their overall study skills. The centers are located on the third floor of the Hammond Building.

Mathematical Skills Center

The Mathematical Skills Center under the direction of the Mathematics Department, provides peer tutoring to all college students on a drop-in basis. Assistance is available in most areas of mathematics from arithmetic to calculus.

Writing Skills Center

The Writing Skills Center offers help for all types of writing problems, from planning to punctuation and proofreading. The English Department operates the Writing Skills Center, which is staffed by both faculty and peer tutors. Any instructor at the college may refer a student to the Writing Skills Center, and any student, who desires to take advantage of the many programs and materials, may do so by simply applying for a Writing Skills Center Workshop or on a drop-in basis.

Reading Center

The Reading Center recognizes that all students read at different skill levels and designs its programs to meet individual needs. The Center offers one credit electives that can be taken for up to three semesters. These courses provide:

- Enrichment programs for students who want to increase reading speed while maintaining good comprehension
- Programs for students who want to build stronger vocabularies
- Comprehension exercises to help students better understand what they read
- Methods to adjust reading speeds to meet particular needs

Study Skills Center—A Drop-in Center

The Study Skills Center offers services for students wishing to review or sharpen their study skills, as well as services for students who wish to develop a system of successful college-level study practices. The Center offers assistance in these areas:

- Time management skills
- Learning styles
- Listening and note-taking techniques
- Concentration and memorization tips
- Test-taking skills

PASS (Peer Assisted Study Sessions)

Students who need help preparing for exams, quizzes, and homework assignments are invited to take advantage of study sessions taught by their peers. Peer Assistants provide guidance for:

- Note taking
- Study strategies
- Organizational skills
- The development of study groups
- Academic support of freshman and introductory level courses

A listing of the courses being supported each semester is available from the Academic Success Center. Announcement in classes will be made by faculty teaching the selected courses.

Pre-Major Student Services (Undeclared Students)

We are committed to assisting Pre-Major students in an effort to encourage academic and career exploration. The college has many resources including:

- Humanities Department Advisors, 0-30 credits
- The Academic Advising Center, 31-60 credits

Pre-Major students also work closely with other support departments on campus, including:

- Career Services
- Expanding Horizons
- The ACCESS Program

Students are encouraged to speak with faculty and departmental chairs, experience introductory courses and attend departmental workshops.

The ACCESS Program

The ACCESS Program is a highly successful academic support program designed to meet the needs of undergraduate students from low-income backgrounds. The students who participate in ACCESS possess the motivation and potential to receive a college education but have been denied access to a quality education because of educational or economic disadvantages. The ACCESS Program provides students with:

- One-to-one advising
- Assistance with study skills
- Tutoring in a wide variety of courses
- Help with reading, writing, and mathematics
- Counseling on a variety of financial, social, and personal concerns

The ACCESS staff maintains an open door policy for academic counseling and advising. Through referrals, the staff involves students with many other college faculty and staff who possess the special skills needed to help students cope with academic, financial, social, and personal concerns.

The ACCESS Office also serves as a resource to the college community on various issues such as minority student development, Black History Month, Latino Awareness Month, and the following student organizations:

The Black Student Union

The Latin American Student Organization

The Iota Phi Theta Fraternity, Inc.

The Phi Beta Sigma Fraternity, Inc.

The Zeta Phi Beta Sorority, Inc.

The ACCESS program serves Massachusetts residents who meet one of the following criteria:

- The first person in the family to attend college
- Family income less than $25,000 per year
- Attendance in a public high school located in or near Boston, Lawrence, Lowell, Springfield, or Worcester
- Participation in academic programs such as Upward Bound, Talent Search, METCO, or Urban Scholars
- Receives public assistance

When applying to the college, students interested in the ACCESS Program should place a check mark in the box next to 'ACCESS Program' on the Student Profile of the application. The college encourages students and parents to visit the campus and talk with the staff about the program.

The ACCESS Office is located in room 320 in the Hammond Building and the telephone number is 978-665-3399.

Expanding Horizons

Expanding Horizons is a student support services program designed to promote the academic success of FSC students who are from low-income backgrounds, families where neither parent has attained a baccalaureate degree, and/or students with disabilities. Funded by the federal government, Expanding Horizons is part of the nationwide network of TRIO Programs, established over thirty years ago, that have helped an estimated 2 million students to enter and graduate from college despite barriers due to race, ethnic background, socio-economic circumstances, or disability.

Expanding Horizons at FSC provides the following programs and services for Freshman and Transfer students:

- Pre-semester Orientation Week—a residential orientation program to ease to adjustment to college and get a jumpstart on academic preparation
- Faculty/Peer Mentor Families
- A one credit academic survival course
- Academic Needs Assessment

For all Expanding Horizons students:

- Expanding Horizons Planbook and Career Portfolio—a unique guidebook to the four year college experience and a skills based portfolio for use in career development and lifelong learning
- Group and Individual Study Skills Training
- College 102—Academic Survival Class
- Academic, Career, and Personal Counseling
- Learning Specialist Support
- Social and Cultural Activities
- Junior/Senior Seminar—preparation for graduate school and the transition to work

To be eligible for Expanding Horizons, a student must be a citizen or national of the United States or meet the residency requirement for federal financial assistance; be enrolled or accepted for enrollment at Fitchburg State College and:

- Meet federal low income guidelines
- Be first generation to college (neither parent has achieved a baccalaureate degree)

And/Or

- Be a person with a disability

For further information or to be a participant in the Expanding Horizons Program come to our office on the third floor of the Hammond Building or call 978-665-3064.

International Education Office

Fitchburg State College encourages a global perspective on campus by promoting programs for international students as well as for students who want to study in another country. Both types of students enrich the cultural and ethnic diversity of the college community. The International Education Office benefits foreign students, those who wish to study in another country, and those who are interested in an on-campus international experience.

Services offered to international students include assistance with their transition to college, cultural awareness programs, and guidance when completing the necessary paperwork and communications with the United States Immigration Service.

Fitchburg State College encourages students to consider a semester or a year of study in another country as part of their educational experience. The college has established a number of direct exchange programs with colleges and universities throughout the world. Students also have the choice of applying for international programs not identified by the college. For specific information about international study possibilities, contact the Office of International Education, 3rd Floor, Hammond Building, 978-665-3089.

Students interested in an on-campus international experience have the opportunity to request an international roommate or join ISU (International Student Union), a student-run organization that welcomes incoming international students to campus.

Disability Services

Disability Services is the primary support system for students with disabilities taking classes in the day and evening division. A number of services are available including an assistive technology lab, tutors, peer mentoring, tape recorders, testing accommodations, note takers, readers, interpreters, support groups, coaching, and consultation with faculty. The adaptive computer lab houses a voice activated computer system, Braille printer, scanner with print recognition, screen enlargement programs, a closed circuit television for the visually impaired, speech synthesizers, and screen reading programs. Disability Services and the Assistive Technology Lab are located on the third floor of the Hammond Building. Contact Mary Wagner at 978-665-3427 or 978-665-3575 TTY for more information.

Academic Accommodations

All accommodations are provided based upon assessment of individual need. Students desiring an accommodation that will enable them to fully participate in academic or campus activities should follow these procedures:

- Submit the appropriate documentation to the Office of Disability Services from a certified diagnostician
- Meet with the Staff of Disability Services
- Complete an accommodation sheet
- Submit the completed accommodation sheet to the appropriate department

Testing Accommodations

Students with disabilities needing testing accommodations for placement exams or other standardized tests must submit requests for accommodations to the Office of Disability Services at least one week prior to the test date. Extended-time, out-of-classroom testing, oral exams, and other alternative testing are options offered to students with disabilities.

Reduced Course Load

Waivers may be available to students with disabilities who need the accommodation of a reduced course load. Waivers are granted by the Undergraduate Dean. Students with disabilities needing the accommodation of a reduced course load will not be penalized by Financial Aid or Housing.

Center for Leadership and Peer Education

The Center for Leadership and Career Education is a three-year grant funded by the U.S. Department of Education to serve college campuses and high schools in Massachusetts.

The main components include:

- Training and technical assistance to campus service providers and employers in areas such as; creating partnerships, disability law, reasonable accommodation, disclosure of disability, and assistive technology
- Leadership and peer education programs designed to emphasize empowerment through the experience of leadership and self-advocacy by the student, and for the community of students with disabilities in high schools and on college campuses in Massachusetts.
- Career development programs to promote career services for students with disabilities during their post secondary experience and into the workplace by using the Career Planbook and Portfolio (authored by Willa Peterson, Expanding Horizons, and Doug Sherman.)
- Provide technical assistance and training in the leadership model and in the development of peer mentor programs to be implemented in high schools and for incoming college freshman and transfer students (in collaboration with the Massachusetts Institute for Community Inclusion at Children's Hospital).

Located in the Industrial Arts Building; Rooms 220/221

For more information contact:

Debra Roberts
978-665-3466 v
978-665-3464 tty
droberts@fsc.edu

Career Services

The Career Services Center provides a variety of programs and activities to assist students and alumni in planning for career decisions during and after Fitchburg State College. The Center provides all aspects of career guidance and counseling, as well as assists students in the school to work, undergraduate to graduate transition. Career Services offers appropriate information for all stages of a student's career development. The Center follows a developmental approach to career education; exploration which leads to assessment and finally to decision making.

Among the services provided are:

- Career Counseling, graduate school advisement, career assessment/interest inventories
- Group workshops & individual sessions on business etiquette, job search techniques, resume preparation, business/thank you/cover letter writing, interview skills/mock interviews, career/major decision making and planning.
- The Career Library, housed within the Career Center, is an extensive collection of up to date career information. The library contains organizational directories, graduate school information as well as current periodicals on occupational information. In the Career Library students and alumni have access to computers with career related software packages. Also available is SIGI Plus, a specialized computer based career exploration program. There are also listings of internships, part time, full time and summer job opportunities. Handouts are available on a variety of career exploration and job search topics.
- The Centers web page allows for the posting of resumes on nationwide databases such as Drake Beam & Morin, College Central and Job Direct. Students can access numerous career related resources as well research graduate schools. The web page will also provide information on career planning workshops such as resume writing, cover letters and interviewing techniques. Furthermore, they will have the opportunity to view local job postings and find out about job fairs through the college as well as the Worcester Consortium. For students in need of academic direction, various interest inventories are available on-line which can assist in career choice. The Center's web page can be accessed by logging on to www.fsc.edu, selecting offices and services and selecting Career Services.

- Coordination of on campus and off campus career events such as career fairs, corporate recruitment and expos.
- The publication of the Annual Placement Survey which supplies statistical data on the most recent graduates and their career tracks.
- Several national programs of standardized testing are administered through the Center including Graduate Record Examination (GRE) Subject Test, College Level Examination Program (CLEP/ DANTES) and the Miller Analogies Test (MAT). Information and registration bulletins are also available for the Graduate Record Examination (GRE) General Battery, The Graduate Management Admission Test (GMAT), the Law School Admission Test (LSAT) and the Medical College Admission Test (MCAT).

The Center is located on the third floor of the Hammond Building. The hours are 8:30–5:00pm, Monday–Friday and evenings by appointment. Students may drop in during these hours to use the resources or may make an appointment for career counseling or other services. If you have any questions regarding services offered by the Career Center, contact us at 978-665-3151

Counseling Services

Counseling Services provides confidential short-term counseling to all students at no charge. Counselors are available for individual counseling, group and couples counseling, crisis intervention, educational programming, outreach workshops, community referrals, and inservice training.

Counselors are frequently consulted for a number of reasons including:

- Coping with loss
- Relationship concerns
- Loneliness/home sickness
- Low self-esteem
- Inability to concentrate
- Family problems
- Sexuality issues
- Roommate difficulties
- Alcohol/drug abuse
- Stress
- Sexual abuse
- Developing healthier habits
- Eating concerns
- Academic difficulties and learning problems
- Feelings of depression, anxiety, and/or insecurity

Group counseling is offered for Students with Mental Illness, Survivors of Past Sexual Trauma, Relationship Issues, Women's Support Group, Stress Management, Eating Disorders, Assertiveness, and Self Esteem.

Counseling Services offers a variety of outreach programs to educate students in the areas of sexual assault and violence prevention, body image, stress and anger management, eating disorders, and depression. Counseling Services supports *Pathfinders*, a peer mentor program which matches student mentors with first year students, to help the new students make an easier adjustment to college.

The Counseling Center is located on the third floor of the Hammond Building. The hours are 8:30 am to 5:00 pm, Monday through Friday, as well as selected evening hours by appointment. Appointments can be made by students in person or over the telephone. Students can see a counselor without an appointment during the daily drop-in time, which is from 2:30 pm–3:30 pm. Drop-in visits are usually 15-20 minutes and can be used for evaluation, to discuss programming, to obtain a referral to a therapist off campus, or to talk something over with a counselor.

Counseling Services provides 24 hour emergency service to the college. The counselor on call can be reached through Public Safety or a Building Director or Resident Assistant.

Student Health Services

Student Health Services provides ambulatory care and health education/promotion, and maintains health records for all full-time undergraduate students at the college. Services include:

- Emergency care of acute illness and injury
- Evaluation, treatment, and/or referrals
- Immunization programs
- Preventative care
- Allergy injections in conjunction with the student's personal physician

Health care is given by nurse practitioners and a consulting physician. The physician attends the clinic during the week at scheduled times and is also available by telephone for consultation. A laboratory facility is available for minor tests free of charge. Outside laboratory services are available for a fee. Some equipment is available to borrow on a limited first-come, first-served basis.

All full-time students and students in a Health Science program are required to have a complete physical exam performed within the past year. Complete documentation of the exam must be on a FSC physical form. Transfer students may submit a copy of their physical exam and immunizations from the school they previously attended. They need to be in compliance with the state immunization requirements.

In addition to the complete physical exam, proof of the following state required immunizations must be provided:

Hepatitis B

- 3 doses for all health science students

Td

- A booster dose if 10 years since last dose

MMR

- 2 doses measles
- 1 dose mumps
- 1 dose rubella
- Tuberculosis test or chest X-ray results (within past one year)

Health Services is located in the Anthony Building (opposite Public Safety in the quad). Walk-in hours are available daily or students may schedule appointments.

Substance Awareness/ Smart Choices Program

The Office of Campus Living manages the campuswide alcohol and drug prevention efforts. A range of supportive and educational services are provided to inform students of current facts and trends in alcohol and other drugs and promote alternative (alcohol-free) activities. We focus on reducing high risk drinking and increasing the awareness of the relationship between alcohol and violence.

The office provides leadership opportunities for students, and offers a comprehensive training to volunteer Peer Educators. With the assistance of the Peer Educators, the Office achieves the following goals:

- Facilitating educational workshops and training
- Conducting yearly campus research
- Organizing a campuswide Substance Awareness Task Force
- Conducting individual assessments and referrals
- Alternative (nonalcoholic) activity planning
- Co-sponsorship of campuswide awareness events such as Alcohol Awareness Wee, Major Speakers, and the Health fair

The Smart Choices Program consists of alternative (nonalcoholic) activity planning, cosponsorship of campuswide awareness events such as Alcohol Awareness Week, AIDS/HIV Awareness Day, and the Health Fair, and the coordination of the Smart Choices Peer Educators. The student volunteers are trained to work within the campus community to raise awareness of the issues surrounding alcohol usage and AIDS/HIV and to address how these issues impact the campus environment.

McKay Curriculum Resource Center

The McKay Curriculum Resource Center provides faculty and students in Education Programs assistance in the research and development of curriculum materials, motivational tools, and evaluation and assessment devices. The Center houses textbooks, instructional aids, media materials, and computer software, which may be used in the classrooms at the elementary and secondary levels.

Child Development Center

The Fitchburg State College Child Development Center is an Early Childhood Program designed to meet the child care needs of the college community. The center-based program provides warm, loving care that meets the Standards and Areas of the National Academy of Early Childhood Programs. The Child Development Center is currently licensed to provide services to children between the ages of 2.9 years through six years. The enrollment priorities are as follows: students, faculty/staff, and community. The program is also a training site for students of the college in Early Childhood Education Teacher Training.

The program is licensed by the Massachusetts Office for Children, and is located in the McKay Campus School Teacher Education Center. The center is open from 7:30 am to 5:30 pm Monday through Friday, on a year-round basis. The Fitchburg State College Child Development Center is managed by Associated Children's Services, Inc., a private agency. For more information about the program, call 978-343-9149.

Student Escort Service

The Student Escort Service of the Public Safety Department provides escorts anywhere on campus and within a ten minute walking radius of the campus. The Student Security Officers work in pairs and have radio communications with Campus Police Officers. The Student Escort service is available from 7:00 pm–1:00 am during the school year. Escort requests at other times are handled by Campus Police Officers. To request an escort, please call 978-665-3111, TTY: 978-665-3588 or use any emergency call box on campus. In addition to the Student Escort Service, the Public Safety Department offers a number of services for students. These include:

Emergency Call Boxes

Located throughout campus are nineteen (19) emergency call boxes with blue lights that connect directly to Campus Police and an officer will immediately be dispatched to your location.

Operation Identification Program

Record the serial numbers, model numbers, brand names and description of personal property. Engravers and forms are available from Campus Police to mark personal property as a theft deterrent.

Crime Prevention Programs and Presentations

Campus Police makes numerous presentations on a whole range of issues from theft, rape, alcohol and drug abuse. The nationally recognized R.A.D. (Rape Aggression Defense) Program is offered free of charge to female students staff and faculty be certified R.A.D. instructors from Campus Police and Campus Living.

Motorist Assists

Dead battery, keys locked in your vehicle, contact Campus Police for assistance, 665-3111 or use an emergency call box.

Student Life: Beyond the Classroom

Fitchburg State College maintains that emotional, physical, social, and spiritual growth extends beyond the classroom and into the total campus environment. The college offers individuals and groups a variety of avenues for self-discovery and expression. Fitchburg State students who choose to become active in campus life, by accepting new commitments and adding responsibilities, often find avenues which will direct them toward their career and other life goals. They develop significant, enduring relationships with faculty, administrators, and other students, thus establishing a support network for years to come.

New Student Orientation

The orientation program at Fitchburg State College is designed to assist incoming, full-time students in making the transition from high school or work to college. Built on a concept of "student development," the orientation takes a holistic approach to addressing students' intellectual, emotional, physical, social, and spiritual dimensions.

Coordinated by the Student Affairs Office, the orientation helps both students and their families with the transition to FSC and gives them a feeling for and identity with FSC, as follows:

- Students focus on testing, academic advising, and registration for classes
- Students are introduced to campus life and services available to them through a variety of programs and activities
- The Family Program gives valuable information about the college, as well as tips for easing students' and family members' transition to FSC

Typically, the orientation program is scheduled during the summer with additional programs during the first week of the school year. All new students receive advance notification and information about the program and are expected to attend.

Campus Living

On-Campus Housing

Fitchburg State College offers a variety of housing options within the five residence halls/complexes. The halls range from traditional residence halls, high-rise buildings, suites and apartment style units. The residence halls at Fitchburg State provide more than just a roof over your head and three square meals a day. Each hall/complex has its own unique attributes but they all provide you a place to socialize, interact with your fellow students and most importantly, a place to study.

Living on campus is also very affordable when you consider all the things included in your housing contract, such as utilities, maintenance, local telephone service that includes call waiting, and voice mail. Every room is also wired for fiber-optic network for unlimited access to the Internet and electronic mail—one port per student. Cable television along with a movie channel is also included in every room. Campus Living also offers a number of additional services such as a linen program, especially designed for the extra long beds in the residence hall rooms.

While each residence hall/complex is unique, all include "Living & Learning Centers—computer rooms. Depending on the size of the hall/complex these rooms house between four and six computers, which are connected to a laser printer and the campus data network. Students can conduct research, write papers, surf the net or check their email from these centers. These centers are also for studying and a place for faculty to visit to enhance the academic environment.

Aubuchon Hall

Aubuchon Hall is an eleven story high-rise, housing approximately 288 students. While Aubuchon is one of the largest facilities on campus, it allows for smaller communities within the building to be formed. Each floor has its own lobby, laundry facility and kitchenette w/microwave. Aubuchon Hall is also home to the First Year Residential Experience (F.Y.R.E.) program. Aubuchon has both traditional double occupancy rooms and a limited number of premium singles. There is a full kitchen, activity room and recreation room with a pool table and ping-pong on the ground floor.

Herlihy Hall

Herlihy Hall is the only traditional style college housing with the long corridors allowing for an open community. It is a co-educational facility that is home to 120 students. Students who reside in Herlihy are usually a mix of freshmen through seniors. The rooms in Herlihy are the largest double occupancy rooms on campus. The building is in the process of being remodeled in increments. At this time the first floor rooms have been renovated with new furniture, closets and flooring. Herlihy is also equipped with a community television and recreation room, a new kitchen/ laundry room, computer room, and a newly renovated front lobby.

Russell Towers

Russell Towers is a nine story high-rise and is home for up to 232 residents in a modified suite arrangement. There are 36 suites with six bedrooms in each suite along with a suite bath, and open lounge space. With 75% of the residents being returning upper-classmen in primarily premium singles, Russell towers is a quiet community of close friendships. Russell Towers also features several community lounges, computer room, pool table and a central laundry room.

Mara Village

Mara Village consists of seven residential buildings and one commons building. Each building is comprised of suites that house, on average, eight students with a suite bath and lounge. Each building houses approximately 48 students which allows for some close communities to be developed within the larger village complex that houses 325 students. Mara is also home to the recently created graduate/non-traditional student housing option. Mara is the newest facility at FSC and is located on the northeast corner of the main campus. Each residential building has a common lounge and kitchen while the Commons building is home to the building director, and includes a large meeting room/ lounge, computer lab and laundry room.

The Townhouses

The Townhouses are primarily reserved for upperclassmen, who select their apartment based on a priority point lottery system. The complex consists of seven apartment style buildings. Each apartment is equipped with a combination living room/kitchen area, one and one-half baths and separate bedrooms. There is also a commons building that houses a lounge and computer lab, laundry room, and the complex office. While the complex is primarily reserved for upperclassmen, there is space reserved for those needing 12-month housing and for non-traditional students.

All the residence halls are located conveniently on the perimeter of the main campus. The halls are grouped in two areas: East Campus, which consists of Mara Village and the Townhouses; West Campus, which consists of Aubuchon Hall, Russell Towers and Herlihy Hall. Each area is staffed by a full-time professional staff member who is responsible for overseeing the operations and staff. Each building is staffed with a building director and resident assistants (RA). All these individuals are available to assist student in working out living arrangements, guide residents in adjusting to campus life, and serve as educational and social programmers, building managers, and resource/referral aids.

Living Options

In addition to the variety in the type of housing, there is a variety of living options available:

- Alcohol Free Housing
- Graduate/Non-Traditional Housing - over age 23
- Designed Single Rooms
- Premium Single Rooms (double occupancy rooms for one)
- Twelve-month housing
- Quiet Living Area (24 hour quiet hours)
- Handicapped Accessible Housing

Additional questions concerning on-campus housing should be directed to the Office of Campus Living, Aubuchon Hall 978-665-3219.

Student Activities and Organizations

Student Activities and Hammond Campus Center

The Student Activities and Hammond Campus Center Office coordinates the co-curricular programs and activities, and the operations of the Campus Center building. The Department is committed to enhancing students' educational experiences through the development of, and participation in diverse programs and activities. The Hammond Campus Center endeavors to serve as the focal point of the campus, bringing together members of the Fitchburg State community.

The Student Activities Office and the Hammond Center are the hub of extracurricular events on campus. The office is committed to the principles of leadership development, enhancing student life outside the classroom, and to providing cultural and social opportunities. The offices maintain many resources about the college student organizations and the numerous opportunities open to individual students.

Student Organizations

Student Government Association (SGA)

The purpose of the Student Government Association as set forth in its constitution is:

> ". . . to be the democratic ruling body for and by the students, whose main goals are to unite the student body and address their various needs; to secure and defend the rights and freedoms necessary for our full participation in the educational process; to ensure the civil rights of the membership; to be a voice for the student body to the faculty, administration, and the community at large."

As the official voice of the students, the **Student Government Association** plays two important roles for the student body:

- Participates in campuswide committees as well as state and national student organizations
- Governs the many committees responsible for student affairs, activities, and clubs

The governing body of SGA is the SGA Council, which is comprised of an Executive Board and Commuter's Board. Elections for positions on these boards are held every spring for the upperclass members and in the fall for freshmen.

The SGA offers a number of services to its members, including programming, photocopying, and legal advice. Student participation is welcomed and encouraged.

Clubs, Fraternities, Sororities, and Other Groups

The college is proud to support a wide variety of student organizations that encompass a broad spectrum of interests. Participation in student organizations is encouraged to round out the academic experience and develop skills which will last a lifetime.

Membership in college clubs and organizations is generally open to all FSC students; for meeting times and locations, contact the Campus Center/Student Activities Scheduling Office.

A list of the organizations on campus includes:

Academic Honor Societies

National

Alpha Lamda Delta (Freshman Honor Society)
Alpha Delta Omega (Human Services)
Epsilon Pi Tau (Industrial Technology)
Kappa Delta Pi (Education)
Omicron Delta Epsilon (Economics)
Sigma Theta Tau (Nursing)
Sigma Tau Delta (English)
Phi Alpha Theta (History)
Psi Chi (Psychology)

Local

Communications/Media Honor Society
English Honor Society

Academic Interest Groups

Accounting Society
Associated Builders and Contractors
Biology Club
Chemistry Club
Clinical Laboratory Science Club
Communications/Media Club
Computer Science and Math Club
Early Childhood Club
Elementary/Middle School Education Club
English Club
Fitchburg Industrial Technology Association
French Club
Geo Club
History Club
Honors Club
Human Services Club
Marketing Club
National Association of Homebuilders
Nursing Student Association
Psychology Club
Society for Advancement of Management
Sociology Club
Special Education Club/Council for Exceptional Children

Fraternities

Esoteric Society
Iota Phi Theta Fraternity, Inc.
Sigma Pi
Sigma Tau Gamma
Phi Beta Sigma

Sororities

Adelphian Society
Neasylon Society
Phi Sigma Sigma
Sigma Sigma Sigma

Residence Hall Government

Aubuchon Hall Council
Herlihy Hall Council
Inter-Hall Council
Mara Village Council
Russell Towers Association
Townhouse Board of Governors

FSC Student Government

Commuter's Board
SGA Senate
SGA Council
SGA Class of 2000
SGA Class of 2001
SGA Class of 2002
SGA Class of 2003

Special Interest Groups

Amnesty International
Black Student Union
Cogito Ergo Sum (Disability Awareness Group)
Dance Club
FSC Band
FSC Cheerleaders
FSC Falcon Players
FSC First Response Team
International Student Union
Intervarsity Christian Fellowship
Inter-Fraternity Sorority Council
Karate Club
Latin American Student Organization
L.M. Perlstein Co. (ROTC)
Legal Association
MASSPIRG
One in Ten and Friends
Outdoor Adventure Club
Programs Committee
SAXIFRAGE (Yearbook)

SCRIMSHAW (Literary Magazine)

Society of Motion Pictures and TV

Society for Technical Communication

Sports Medicine Club

The Attic

The Point (Newspaper)

WXPL Radio—91.3 FM

Volleyball Club

Musical Groups

Fitchburg State College offers a variety of musical programs for both the musician and the music lover.

60-piece Concert Band performs music of all types, from the transcriptions of classics to contemporary sounds.

Jazz-Rock Ensemble features big band, jazz, rock, and experimental music for stage bands.

FSC Choir performs a wide selection of mixed-voice choral pieces.

Whenever instrumentalists are available, small ensembles of various instruments, including brass, woodwind, and recorder, get together to play.

Religious Life

Many churches, synagogues, and other religious congregations are located within walking distance of the campus. In addition, the Newman Center student parish, whose modern center was built with the help of Fitchburg State Industrial Arts students, provides a spiritual and social gathering place for many students. The Center, which hosts many student functions throughout the academic year, is located on Highland Avenue, adjacent to the college.

Intercollegiate and Intramural Sports

The Department of Athletics at Fitchburg State College, supported by the General Student Fee, offers every student an opportunity to participate in athletic activities on varsity, intramural, and/or recreational teams. These opportunities enhance the academic experience by providing healthy competition at all levels of skill.

Intercollegiate Sports

The Fitchburg Falcons varsity teams have enjoyed national and regional recognition as highly competitive NCAA Division III teams. The sixteen varsity teams represent men and women in both indoor and outdoor competition.

Fitchburg State is a member of eighteen intercollegiate Athletic Associations, which entitles successful teams to participate in tournament and championship play. FSC is a charter member of the Massachusetts State College Athletic Conference (MASCAC), which includes seven other state colleges.

The Student-Athlete Advisory Committee, composed of students and cochaired by the Director of Athletics, oversees the Intercollegiate sports program. They provide direction and insight to meet the interests, needs, and abilities of the student body in concert with Title IX and gender equity.

The college offers three seasons of Intercollegiate varsity competition as follows:

Fall Season

Competition runs from early September through early November:

- Men: football, soccer, cross-country
- Women: soccer, field hockey, volleyball, cross-country

Winter Season

Competition runs from late November to early March; practice starts in late October or early November

- Men: hockey, basketball, indoor track
- Women: basketball, indoor track

Spring Season

Competition runs from late March through early May; baseball and softball practices start in early February, and the teams often travel to Florida for spring break. Track and field practice starts once indoor track has finished its season.

- Men: track and field, baseball
- Women: track and field, softball

Information regarding preseason tryouts and team meetings is available in the Athletic Office and by notices posted throughout the college community.

Athletic Eligibility

Students who wish to participate on intercollegiate teams must be full-time students and be making "satisfactory progress toward a baccalaureate," defined as successful completion of:

- 24 semester hours of course work prior to entering their third full-time semester
- 48 semester hours of course work prior to entering their fifth full-time semester
- 72 semester hours of course work prior to entering their seventh full-time semester

Full or part-time status shall be determined by the end of the Add/Drop period. Students are required to successfully complete 24 semester hours of course work during their previous two full-time semesters to remain eligible. See Academic Policies and Procedures section for academic requirements. In addition to Fitchburg State College academic requirements, students must meet the requirements of the NCAA, ECAC, and MASCAC.

Intramural Sports

An active intramural program, run by students on the FSC Intramural Council, offers the opportunity for all students to participate in a wide range of activities. Student involvement plays a large part in the success of the program, the goals of which are fair play, leadership development, cooperation, and enjoyment.

The sports offered attempt to meet the needs and requests of the college community and include: coed volleyball, street hockey, basketball, flag football, soccer, 3 on three basketball, Frisbee, and softball.

Notices of intramural activities are posted around the campus throughout the year. Sign-up sheets are available at the Department of Athletics.

Students can use the various areas in the recreation center when they are not scheduled for academic or intercollegiate athletic events. Specific policies regarding use of the recreation center are available at the Control Desk on the first floor of the building.

Student Code of Conduct and Discipline System

Student Code of Conduct

Fitchburg State College recognizes that students, as members of society and citizens of the United States of America, are entitled to respect, consideration, and guaranteed freedoms of speech, assembly, and association under the U.S. Constitution. The college further recognizes the students' right within the institution to freedom of inquiry and the responsible use of the services and facilities of the college.

Students at Fitchburg State College have a responsibility to act in a manner that promotes the well-being, respect, safety, and security of all members of the college community. Behavior, whether on or off-campus, that calls into question a student's suitability as a member of the academic community, or places college members at risk, will not be tolerated. Such behavior will result in disciplinary action ranging from a warning to dismissal.

The complete text of the Student Code of Conduct is found in the *Undergraduate Student Handbook* which is available at the Student Affairs Office.

Student Discipline System

The goal of the Student Discipline System is to support the educational mission of the college by insuring that an atmosphere of acceptance, curiosity, and integrity is maintained on the campus. By educating and enforcing mature and responsible behavior the Student Discipline System promotes students' respect for the rights of others, their receptivity to new and challenging ideas, and civil and courteous behavior. The complete text of the Student Discipline System is found in the Undergraduate Student Handbook which is available at the Student Affairs Office.

Good Neighbor Policy

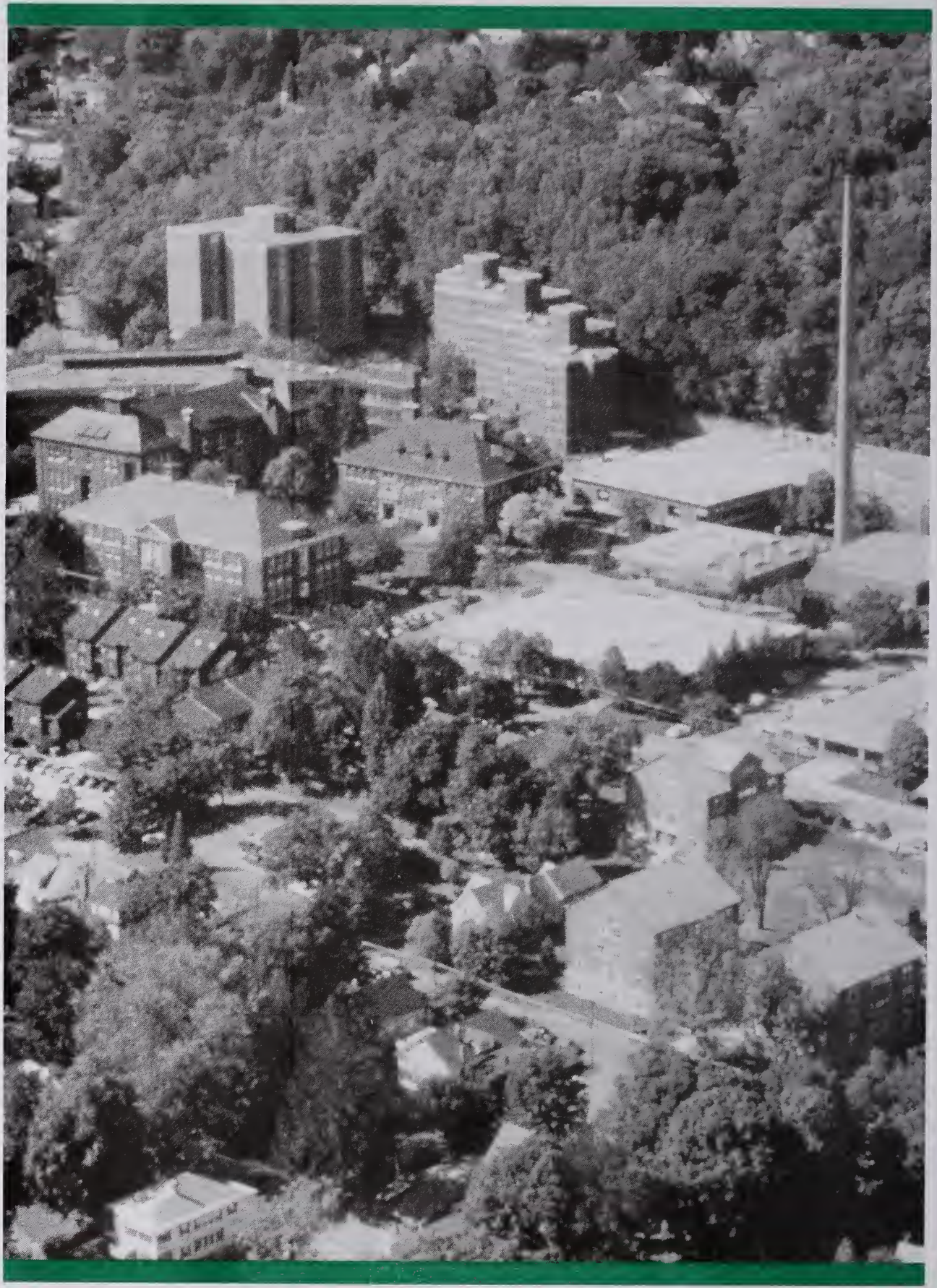
Students who reside in or visit the college neighborhood are expected to demonstrate respect and concern for all members of the local community. As such, FSC expects students to demonstrate responsible citizenship in the local neighborhood by participating in any of the several community service opportunities available for students. Contact the Volunteer Center for more information.

To support the goal of being "good neighbors," the following conduct (and any other of a like sort) will not be tolerated and will constitute violations of college policy for which students are subject to being disciplined whether the conduct occurs on or off the campus:

- making excessive or unreasonable noise
- sponsoring parties for profit (the illegal sale or distribution of alcoholic beverages, which may include the use of tickets, tee-shirts, mugs, cups and/or any other items as a price or condition of admission)
- sponsoring excessively large parties
- serving minors alcohol
- disorderly conduct, harassment of neighbors, defacing or damaging property, throwing objects out windows
- public drinking, public urination
- using, selling, or distributing illegal drugs
- interfering with the City of Fitchburg Police or utility agencies in the performance of their duties
- using, selling, manufacturing, or distributing fake IDs

Students who violate college policy and/or federal, state, or local law and, by doing so, call into question their suitability as members of the college community, are subject to the ruling of the Student Discipline System in addition to the appropriate body of federal, state, or local law. If found responsible, students are subject to sanctions up to and including loss of residence or suspension or dismissal from the college.

Campus and Facilities



Directions to the College

Fitchburg State College is located in a residential section of Fitchburg, the urban center of North Worcester County. It's approximately 25 miles north of Worcester, 50 miles west of Boston and 15 miles south of New Hampshire. The compact campus of 32 buildings on 48 acres is easily accessible by car, bus, or train from all areas of New England.

By car: From within Massachusetts: Take Interstate 91, 190 or 495 to Rte. 2 to exit 32. Follow Rte. 13 north (toward Lunenburg) to Rte. 2A (about four miles), then take a left toward Fitchburg. At the intersection of 2A and the John Fitch Highway (about 1-1/4 miles), turn right, pass through a set of blinking lights and, at the next stop light, turn left onto Pearl Street. The college is located about 1/4 mile up Pearl Street.

From New Hampshire: Take Rte. 12, 13 or 31 to Fitchburg. Follow city map insert.

From Connecticut: Take either Interstate 91 or 84 to the Massachusetts Turnpike, exiting north on to Interstate 290 in Auburn. Follow 290 to Interstate 190 north to Rte. 2, exit immediately at exit 32 and follow directions given above for Massachusetts locations.

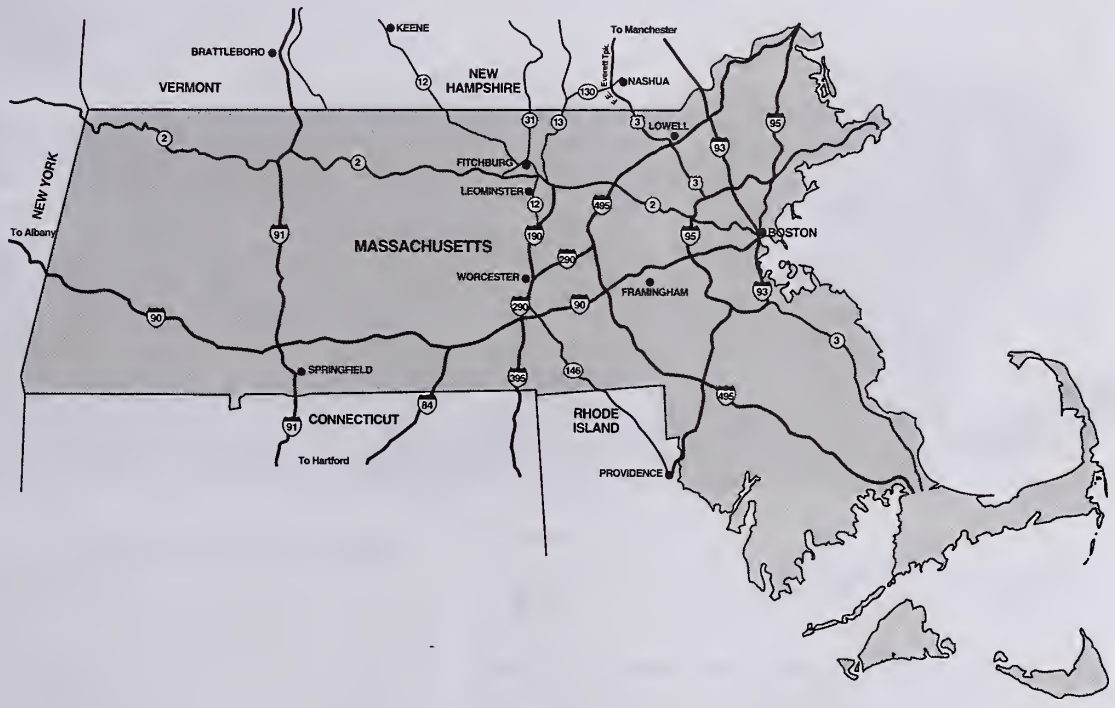
From Rhode Island: Take Rte. 146 north to Interstate 290 through Worcester exiting onto Interstate 190. Follow instructions for Massachusetts locations.

By bus or train: Daily MBTA trains to and from Boston stop on Main Street in Fitchburg. Cross Main Street to North Street. The college is three blocks north. See insert map.

Trailways buses from Pittsfield, Springfield and Worcester also stop on Main Street near the MBTA Station. Follow walking directions above.

Buses from Boston stop at the intersection of Rtes. 2 and 12. Cab or local bus service to the college is available from that stop.

If you have any questions, please call 978-345-2151.



Campus Map

1 *Conlon Building*
- 1A Fine Arts
- 1B Industrial Technology Communications/Media

2 *Weston Auditorium*
3 *Condike Science*
4 *Sanders Administration*
5 *Newman Center*
6 *Alumni/Development House*
7 *Anthony Receiving*
8 *Parkinson Gymnasium*
9 *Dupont Facilities Building*
10 *Holmes Dining Commons*
11 *Edgerly Hall*
12 *Percival Hall*
13 *Thompson Hall*
14 *Hammond Campus Center/Library*
15 *Miller Hall*
16 *Recreation Center*
17 *McKay Campus School*
18 *Athletic Fields*
19 *Highland House*

Residence Halls

A *Aubuchon Residence Hall*
B *Russell Towers*
C *Herlihy Residence Hall*
D *Townhouse Apartments*
E *Mara Village*

Buildings and Grounds

Located in the unique three-mountain area known as the Montachusett region, FSC features a traditional New England quadrangle graced by historic brick buildings. Residence units, academic buildings, the library/campus center, auditorium/theater, dining commons, gymnasium, and other facilities are all within a short walking distance from one another. Just north of the campus is a 36-acre athletic and recreational area as well as the McKay Campus School. Other outdoor recreational opportunities are available in the 120-acre conservation area spanning three neighboring communities. A new athletic and recreation complex on the south end of campus officially opens in September 2000.

Campus Facilities

All students are encouraged to utilize the many campus services and facilities available, including the computer center, athletic facilities, library, and many others. Access to these facilities often requires a valid **Identification Card,** which can be obtained at Image Systems on the third floor of the Conlon Industrial Arts Building. ID Cards should be validated every semester.

The College Library

The Fitchburg State College Library, www.fsc.edu/library, located in the Hammond Building, is a comprehensive information center dedicated to the educational development of students. A knowledgeable staff and easily accessible print and electronic collection promotes the interaction between students and resources available to them. The main library serves the undergraduate and graduate programs. A second library, located in the McKay Campus School, serves the McKay teachers, staff, and children.

The library provides the following services and volumes:

- Book collection of 215,400 volumes and 431,700 microform equivalents
- 14,200 volume Reference Collection and a Children's Collection of 7,300 volumes
- Approximately 1,400 print periodical titles and access to 2,200 full text on-line periodical titles
- 36,700 bound volumes
- 15,400 reels of microfilm
- Paper indexes and abstracts
- On-line indexes and abstracts
- CD-Rom indexes and abstracts
- Computer classrooms for library instruction
- Internet parts
- Local area network for access to electronic resource 10 CD-ROM index and abstract subscriptions and numerous other CD-ROM reference services, on-line databases
- On-line library catalog, and database searching on every floor
- Electronic Encyclopedia
- Access to the C/WMARS automation network
- Borrowing arrangements with 28 other Massachusetts academic libraries
- Resources in Education Collection (ERIC), a comprehensive updated Education library system consisting of 415,000 items
- Special Collections Department which includes the college archives and the manuscript collections of former FSC students, faculty, and alumni, including Robert Cormier and Robert Salvatore

The library is open 97 hours and seven days a week and provides study tables, carrels, and seating on all four levels. Library hours vary during the winter and summer semesters as well as holidays. Students are encouraged to call for complete schedule information. Service for the collection is provided by six professional librarians, who assist at the Library Information Desk and also conduct library instruction classes for the college community. To arrange for such a session students can contact the staff at the Library Information Desk at 978-665-3223.

Campus Center

The Campus Center serves as a gathering place for both commuter and resident students. Located in the Hammond Building, the Center's facilities include:

- Campus Information Center
- Commuter Cafeteria
- Art Gallery
- Ground Zero Game Room
- College Bookstore
- Underground Pub
- Post Office
- Meeting and Function Rooms
- Offices of the Student Government Association, *the Point*, and the Student Organization Club Room
- Volunteer Center
- Student Organization Room
- Summer Conference Center
- Leadership Commons

Computer Facilities

Fitchburg State College has several computer facilities around the campus to serve the general administrative, educational, and research needs of the campus.

The Office of Management Information Services (MIS)

The MIS Department serves the technology needs of the entire college community for networking, Internet access, research, telecommunications, and student record-keeping systems. Culminating in 1997, the FalconNet telecommunications upgrade project provided Fitchburg State College with a campus-wide, scalable, ATE/Ethernet Network. With that came enhanced technological tools of voice, video, and data communications as well as comprehensive network security measures. An extensive User Services and Support Program, in the form of a Help Desk and an updated, end-user training program and facility, manifests the college's commitment to excellence in the delivery and upkeep of its systems and services.

Newly implemented programs, such as Remote Internet Access for faculty, staff, administration, alumni and FSC community members, demonstrate the outreach potential of this commitment. Infrastructural improvements, coupled with enhanced services, allow the use of technology for video-conferencing, distance-learning, and extended library services.

Fitchburg State College provides both classroom and residence halls with high-speed T-1 network connectivity. Students, faculty, and staff enjoy Internet access and electronic mail service as well as a variety of research tools. The college maintains several residence hall and specialized classroom computer labs, featuring the full gamut of platforms and operating systems.

The implementation of this state-of-the-art FalconNet network and related services enabled the college to step to the forefront in the delivery of information technology at both the local campus and in Massachusetts Higher Education. Just as FalconNet touches every aspect of the college campus and community, the Management Informations Systems department keeps its goal—to be a leader in all aspects of improving technology and the quality of education at Fitchburg State College. MIS is steadfastly preparing itself, both in personnel and scalable equipment, to lead the college into the new millennium.

Academic Computing/Media Services

As an information technology provider at Fitchburg State College, Academic Computing/Media Services (ACMS) supports teaching, learning, research, and administration at Fitchburg State College by:

- Leading the college as a technology resource, providing state-of-the-art solutions within the bounds of resource availability, and working closely with other information technology providers on and off campus.
- Delivering timely and helpful services to campus constituents. Excellent customer service is our top priority. We improve the quality of our services by learning from ongoing evaluations and other sources.
- Creating and maintaining an organization whose employees are valued for their diversity, creativity, productivity, and adaptability. Learning and sharing information in a climate of mutual respect and cooperation will be commonplace as we work together toward our common goals.

Instructional Computing Facilities

Supported by ACMS, there are five open microcomputer classrooms and a designated student computer laboratory providing a wide range of Internet connections, instructional applications, word processing software, and local area network services. Six multimedia mobile carts were built to facilitate classrooms teaching. Other computing equipment and facilities are also available for instructional use at ACMS and some academic departments. Six multimedia presentation classrooms are currently under construction, and are scheduled to be in service in fall 1999.

- A Macintosh classroom with 25 Power Macintosh computers is located on the third floor in Hammond building.
- A PC classroom with 25 Pentium II computers is located in Room 106 in Edgerly building.
- B147 in McKay is a multimedia computer classroom with 20 Pentium computers and a mobile instructor podium equipped with a computer, video projector, and sound system.
- C177 McKay housing 10 Pentium PCs is conveniently located next door to C175. The two computer classrooms are alternately scheduled to ensure the availability for classroom teaching and individual use at all times.
- The designated Student Computer Laboratory is located on the third floor in the Hammond building. With a potential capacity of 48 computers, the lab currently has 25 PCs and 10G3 Macintosh computers.
- The six multimedia carts are located in classroom buildings on campus. With a laptop computer, an LCD video projector with a built-in overheard projector, a VCR and sound system, the cart presents an all-in-one mobile system for classroom teaching.
- The six multimedia presentation classrooms will be located in Thompson 111, Percival 102, Edgerly 102, Conlon Arts 214, McKay C174, and Condike Science Lecture Hall. Multimedia hardware includes a computer, video projector, an ELMO presenter, a VCR and surround sound system.
- To facilitate faculty research activities, six laptop computers are available at ACSM for long-term and short-term loan to FSC faculty. In addition, Conlon Arts 228 is equipped with PC and Macintosh computers, a color scanner, a color printer, a video projector, and digital camera serves as a faculty computing resource center for various instructional technology experiments. Supports staff is also available on site.

Media Facilities

ACMS provides a wide range of audio/visual equipment and campus wide media support and services.

- Media equipment is available in all classroom buildings and at ACMS for checkout.
- The Falcon net Cable Television system provides 40 channels of programming to Fitchburg State College's residence halls, classrooms, and offices.
- Satellite down link for interactive video conferencing.
- A video library maintains a collection of video tapes for instructional recreational, and distance learning use.
- Student, faculty, and staff ID production.
- Video/photography production for instructional activities and administrative events.
- Audio/visual equipment maintenance and repair are also provided at ACMS.

More information is available by dialing 978-665-3262 or visiting our Web site at http://acms.fsc.edu.

Adaptive Computing Lab

The Adaptive Computing Lab addresses those students with special computing needs. Housed in the Hammond Building (third floor), it contains equipment needed to provide large print, braille, voice-operated computing, talking scanners, and other software and hardware.

Computer Science Department

The Computer Science Department has additional equipment dedicated for use in that discipline, including:

- Electronic hardware and prototyping equipment to support both analog and digital laboratories
- Small microprocessor systems that allow students to work on design experiments that would be impossible or, at least impractical, on larger computer systems

- Computer networks and intranet systems including SPARC workstations running Solaris, and Intel PCs with Windows '95, Windows NT, Linux, and a Novell network

This provides students with state-of-the-art systems and design equipment currently being used in industry. These computer laboratories also provide the students with access to the Internet as well as a Web server for developing their own home pages.

Visit Fitchburg State College's home page at **http://www.fsc.edu**

Resident Housing

A variety of resident housing options are available for students who choose to live on campus. The five campus residence halls provide housing for more than 1400 students. All residence halls are centrally located to classrooms, offices, the library, computer laboratories, auditoriums, and the Campus Center. Situated adjacent to the residence halls is Holmes Dining Commons, where various meal plans are offered to resident hall students. For specific information on resident housing, please refer to the Campus Living section of the catalog.

Athletic Facilities

Fitchburg State College has a wide range of indoors and out athletic facilities.

- **Recreation Center:** This state-of-the-art recreational facility opened in September 2000. The facility includes:

  An NCAA basketball court with seating for 1,000

  Three teaching stations/intramural courts

  A suspended jogging track

  A 25-year swimming pool

  A dance/aerobics studio

  Fitness and free-weights rooms

  Two racquetball courts

  Two classrooms

  An athletic trainer's room

  An exercise laboratory

  Locker rooms, laundry and storage areas

The Athletic Department offices and the Physical Education offices are also located in the building.

- **Robert Elliot Complex:** Located on Pearl Hill Road, the complex is the site of the outdoor athletic facilities, including the baseball, soccer, football, and field hockey fields, a chem-turf track, tennis courts, and outdoor basketball/street hockey courts.
- **George Wallace Civic Center:** The ice hockey team practices and competes at the Civic Center of John Fitch Highway.
- **McKay Campus School:** Some intramural events are held in the gymnasium at the Campus School. The softball field is adjacent to the school.

The Athletic Department schedules the use of campus athletic facilities.

Biological Sciences Nature Preserve

Nadine Martel Nature Preserve consists of 3.2 acres of land adjacent to the McKay School campus on Rindge Road. The parcel was given to the college in 1999 by Nadine Cookman Martel of Fitchburg for use as an environmental laboratory in undergraduate Ecology and graduate Mammalogy coursework. Students have access to an ideal stream habitat for research in Limnology, Botany and Ornithology.

Outdoor Recreation in the Montachusett Area

The name "Montachusett" is a conglomeration of the names for the three mountains that surround the College. Mt. Monadnock, Mt. Watatic, and Mt. Wachusett offer trails for hiking and slopes for skiing. Students are encouraged to take advantage of this rugged terrain with free rentals of cross-country skis, canoes, and tents from the Campus Center/Student Activities department. Students may also join the FSC Outing Club, which sponsors outdoor trips.

Parking Regulations

Fitchburg State College provides parking facilities for over 1,000 vehicles. The college requires that all vehicles utilizing the parking facilities must display the proper identification sticker. Stickers are free and may be obtained at the Campus Police Department located in Russell Towers on Authority Drive.

Resident students may have vehicles on campus. Along with a required sticker, residential students must adhere to specific parking regulations. A booklet entitled "Motor Vehicle Regulations," with specific parking information should be obtained when the vehicle is registered.

Handicapped Parking Permit

All permanent disabled motorists that are students do need a parking permit and also should display state issued handicapped plates. Motor vehicles bearing a state issued handicapped parking permit or state issued handicapped plates are eligible to park in all designated college handicapped parking spots.

FSC Shuttle and Additional Parking

Since 1998, the President and Campus Police have sponsored the FSC Shuttle, which continuously shuttle students, staff and faculty from the Wallace Civic Center Parking Lot (John Fitch Highway) to and from the campus. The FSC Shuttle operates nonstop from 7:30 am to 5:30 pm during the academic year.

Animals on Campus

Due to health and safety considerations, no animals are allowed on campus or in campus buildings at any time. The only exceptions are guide dogs and laboratory animals.

The Curriculum

At Fitchburg State College, each curriculum or course of study has been constructed to help students develop the intellectual skills needed to analyze, interpret, and learn. The purpose of every curriculum is to assist students in recognizing the possibilities as well as the problems of their changing world, to instill within them a moral awareness of their responsibilities toward improving the quality of human life, and to prepare them for careers which will enrich their lives as they contribute to the lives of others.

Each curriculum includes a Liberal Arts and Sciences program and courses in a major field of study. The purpose of the Liberal Arts and Sciences requirements is to develop, through a variety of academic disciplines, a set of well-rounded skills that are analytic and quantitative as well as verbal and aesthetic. By concentrating in a major field of interest, students acquire knowledge of both the theoretical and the practical aspects of their subject.

Incoming Students: The Readiness Program

All first-year and transfer students will be tested or otherwise evaluated upon entrance to Fitchburg State College to determine their proficiencies in reading, writing, and mathematics. (Exams are scheduled both days and evenings throughout the academic year.) Tests results may indicate skill areas which will be strengthened by a reading program to provide new students with a solid and equal start to their college careers.

Readiness Program Courses and Requirements

EDUC 1000 Personal Reading Improvement—required for first-year students who score below 68 on the reading proficiency examination.

ENGL 0100 Basic College Writing—required for first-year students who score 1.5 or lower on essay and 70 or lower on the Reading Placement Exams and if they have no transfer credit equivalent to Writing I and/or Writing II.

MATH 0100 Basic Mathematics I—required for students who score below 50 on the Placement Exam.

MATH 0200 Basic Mathematics II—required for students who score below 82 on the Placement Exam. **Transfer students** who fail the mathematics examination will not be required to take these courses unless they wish to enroll in a mathematics course at the 1000-level or above.

Credit for ENGL 0100, MATH 0100 and MATH 0200 is considered Institutional Credit only; that is, **the credit will not count toward graduation,** but will count toward full-time status for purposes of financial aid and athletic eligibility. Additionally, the grades received in these courses will be counted in each student's Grade Point Average.

Common Graduation Requirements

In order to be eligible to graduate with a baccalaureate degree from Fitchburg State College, the following general requirements must be met:

- Successful completion of an appropriate discipline-based evaluation chosen by the department and approved by the Vice President for Academic Affairs
- Successful completion of at least 120 semester hours of course work; 45 of these must be attained in residence (normally including the senior year)
- A cumulative GPA of 2.0 or higher
- A minimum of 2.0 average in major course of study*
- An application for graduation must be filed with the Registrar's Office by January 1 of the year of anticipated graduation

Liberal Arts and Sciences Program Requirement

Of the 120 semester hours needed to graduate, candidates must complete a minimum of 60 hours satisfying the requirements of the Liberal Arts and Sciences Program, which includes the Readiness in English and Mathematics (if necessary) and the Constitution requirement (for teacher education majors only) as well as the following components:

- Quantitative/Scientific Cluster ("Q" symbol in course schedule)—4 courses, 1 must be a mathematics course beyond the readiness level; one must be a science lab. (NB: 4 courses, regardless of whether they carry three or four hours of credit, must be completed)
- Ideas and Events Cluster ("I" symbol in course schedule)—three courses, one must have a historical perspective
- Human Behavior Cluster ("B" symbol in course schedule)—2 courses
- Literature, Language, and Arts Cluster ("L" symbol in course schedule)—4 courses, 1 must be in Literature and 1 must be in Arts
- Writing I & II-ENGL 1100 and 1200, or their equivalent if taken at another institution.
- Health and Fitness—(See Health and Fitness) Requirement under Physical Education Program

- Junior/Senior Writing—specific requirement(s) defined by the department of the student's major
- Computer Literacy—specific requirement(s) defined by the department of the student's major
- Speaking/Listening—specific requirement(s) defined by the department of the student's major
- Interdisciplinary ("IDIS" or departmental prefix in schedule)—two courses, one of which must be taken in the freshman year. These courses can simultaneously meet the requirements in content clusters
- Multicultural ("C" symbol in course schedule)—2 courses, which can simultaneously meet the requirements in content clusters
- Intermediate and Advanced Requirement—3 courses at the Intermediate or Advanced level in a Liberal Arts or Science discipline outside one's major. These courses can simultaneously meet the requirements in content clusters
- Liberal Arts and Sciences Electives—4 courses chosen from among those designated as part of the Liberal Arts and Sciences Program

Candidates should be aware that the following restrictions apply with respect to fulfilling their Liberal Arts and Sciences requirements:

- Credits earned in one course cannot be divided
- Credits earned toward graduation cannot be counted twice, even though courses that satisfy Liberal Arts and Sciences requirements may sometimes fulfill the requirements of one's major course of study

Certain majors specify which courses must be taken to satisfy Liberal Arts and Sciences requirements. Students should read the section pertaining to their selected major carefully before registering for classes.

Additional course work required for graduation from individual programs and certificates

Teacher certification or initial provisional certification requires knowledge of the Federal Constitution and that of the Commonwealth. Candidates may fulfill it by successfully completing one of the following courses:

HIST	*1400*	*United States History I*
HIST	*1500*	*United States History II*
POLS	*1500*	*State and Urban Government*
POLS	*1000*	*U.S. Government*

Freshman Foundation Year

The courses required in a full-time, undergraduate student's first year demonstrate that the Liberal Arts and Sciences program offer content and skills that are significant in the development of critical thinking and serve as the foundation for further learning in major areas. Along with fulfilling the Freshman Foundation courses as outlined below, every incoming freshman will be required to read two books that are related to a designated theme.

Freshman Foundation Year Program

- Writing I and Writing II
- Liberal Arts and Sciences courses in at least three clusters
- An Interdisciplinary course
- Additional courses chosen in consultation with advisor

Major Course of Study

Candidates must choose a major course of study, either at the time of enrollment or before the end of their sophomore year. The requirements of the major vary from 33 to 63 semester hours. Students must formally apply to their major by filling out a form available from the Academic Advising Center, Registrar or from the chair of the department.

Changing a major or degree program

Students may change their major or degree program as long as they can meet the requirements for their new major. Often changing one's major increases the amount of time required to complete the baccalaureate program, and not all programs (e.g., Nursing) can accept applicants who wish to transfer to that field.

Programs having requirements for internal transfer are Communications/Media, Human Services, Clinical Laboratory Science, Nursing, and Education.

Double Major

Degree candidates wishing to earn a baccalaureate with two majors must satisfy the requirements of both programs, even if doing so requires more than 120 semester hours of study. All students receiving a BSEd must also complete a major in an Arts and Sciences discipline.

Double major candidates

- Enroll for the second major as they did for the first
- Are assigned an advisor in each major
- Select which degree is to be granted—the BA, BS, or BSEd—since only one degree is permissible

Academic Minor

The academic minor is an ideal way to explore a field other than that of one's major.

Minors are offered in African-American studies, art, biology, business administration, chemistry, computer science, criminal justice, dance, economics, English, French, geography, German, graphics, history, industrial/organizational psychology, industrial science, international studies, mathematics, music, philosophy, physical education, political science, psychology, public service management, Russian studies, sociology, Spanish, theater, and women's studies. (Not all minors are available in the evening.)

Although the minimum number of credits required for a minor is fifteen, the amounts vary significantly from discipline to discipline, as do the prerequisites. See the "Undergraduate Programs" section of the catalog for further information.

Degrees Offered

Fitchburg State College offers three undergraduate degrees:

- Bachelor of Arts
- Bachelor of Science
- Bachelor of Science in Education

Each degree has its own specific requirements for graduation. Students may be awarded only one degree unless they have fulfilled the provisions for a double degree.

Double Degree

Students wishing to earn two bachelor's degrees may do so by satisfying the degree requirements for the two programs prior to receiving the second degree. They must earn 30 semester hours credit beyond the 120 hours required for the first degree.

Three-Year Degree Program

In 1996, Fitchburg State College began offering selected students the opportunity to complete their bachelor's degree in three years. This program is primarily for full-time, undergraduate students in the Interdisciplinary Studies major, although some other majors may be available.

Students who enter this program must have completed at least six credits through Dual Enrollment, Advanced Placement examinations, CLEP examination, or transfer credits.

For further information, contact the Admissions Office.

Program Alternatives

Students may take advantage of a number of program options designed to help degree candidates tailor their course of studies to best suit their individual needs.

Leadership Academy

The Academy is a coordinated four-year honors program offering an enriched curriculum for full-time undergraduate students with very high academic achievements.

Freshmen are invited to join the Leadership Academy based on their high school grades and preparation, SAT scores, rank in class, and leadership potential.

For further information, see the Leadership Academy Program in the Undergraduate Day Programs section.

Transfer students, those transferring from other two or four-year colleges, and students who have been at Fitchburg State College for one semester to a year may apply for acceptance to the Leadership Academy. These students will typically complete the Leadership Minor. External transfer should contact Admissions for acceptance. Internal transfers should contact the Director of the Leadership Academy.

Life Experience Credit Award Program

The Life Experience Credit Award program (LECAP) recognizes that some students may have acquired knowledge and skills through life experiences as well as through formal credit courses. This program allows students the opportunity to ask that their life experiences be evaluated as educational experiences and credited toward an undergraduate college degree. Credit may be awarded for academically verifiable college-level learning acquired through professional experiences, service, noncredit structured and community learning and educational travel. For further information call 978-665-3321 or 978-665-3319.

Independent Study

Independent Study allows students to step outside of course offerings and explore a specialized area of study in a challenging and new environment. Students are encouraged to seek out Independent Study opportunities under the guidance and supervision of a professor in whose specialization they wish to study. A regularly offered course cannot be given as independent study. Independent study programs and the amount of credit earned from them must meet the approval of the professor, the advisor, and department chair involved, with final approval coming from the Dean of Undergraduate Studies. Usually, only three credits of independent study per semester may be attempted.

Directed Study

Directed study allows a student to carry out a non-research project or participate in an activity under the direct supervision of a faculty member. In exceptional circumstances, it can be used to offer an existing courses to an individual student. All directed studies require a 2.5 cumulative GPA, written application from student, and approval of faculty sponsor, advisor, department chair and Dean of Undergraduate Studies.

CAPS: College Academic Program Sharing

CAPS allows students the opportunity to enroll in up to 30 semester hours of courses at another state college without going through formal registration procedures, thus giving them a chance to enjoy a more varied educational experience.

To participate in this program, degree candidates must:

- Have attained sophomore status
- Have spent at least one semester in residence at FSC
- Be in good academic standing
- Attain approval to enroll in CAPS from the chair of their major department prior to registering for the semester
- Contact the Registrar's Office for approval if their major is undeclared
- File a CAPS request with the Registrar's Office

College-Level Examination Program (CLEP), Defense Activity for Nontraditional Educational Support (DANTES), Departmental Examinations, and Advanced Placement

Students entering FSC with college-level training or experience can be tested on college course material to earn credit toward their degree. The FSC examination program is especially valuable for individuals who have had learning experiences outside the college classroom (employment experience, life experience, independent study, etc.) which may come to bear upon their formal academic training.

It is possible to gain up to 60 college credits through the program. For students who score 3, 4, or 5 on the Advanced Placement Examination, the College grants advanced placement status and credit in the area tested. See the Academic Glossary for the Advanced Placement Courses accepted.

For further information on the FSC examination program, contact the Career Services Center, 3rd floor, Hammond Building, 978-665-3151.

Professional Development Center

The Professional Development Center, established in the fall of 1990, provides leadership and vision to central Massachusetts' public school districts as well as to private and individual school members through the assessment, design and implementation of quality staff development. Both the content and methodology of its programs demonstrates a commitment to systemic models of staff development, to implementation of all parts of the 1993 Massachusetts Education Reform Act and to the principles of adult learning. It focuses on public school district short and long term goals and facilitates re-structuring plans and re-certification needs of district teachers and administrators.

In addition to providing leadership in district staff development planning, the Professional Development Center sponsors and manages major conferences on Best Teaching Strategies, conferences for Vocational/Technical High School Teachers and, in concert with the College Board, training for Advanced Placement High School Teachers.

Recent training has focused on: Alternative Assessment, Portfolios, Discipline-Specific Teaching Strategies in Mathematics and the Sciences, Multiple Intelligences, Environmental Science for Elementary Teachers, Leadership Institutes for Public School Administrators.

Fitchburg State College Extended Campus Center

The Extended Campus Center introduces quality educational opportunities to constituents seeking professional development and/or formal study in academic degree programs offered through Fitchburg State College. Working collaboratively with the Office of Graduate and Continuing Education, and with faculty, school administrators, industry leaders, and various educational enterprises, staff of the Extended Campus Center coordinate the delivery of undergraduate and graduate academic courses and programs at sites throughout the country and internationally. Among the Center's many initiatives are the delivery of distance learning courses and telecourses, and the establishment of degree-seeking cohort groups at the Merrimack Education Center and in Bermuda and India.

Distance Learning Center

The Distance Learning Center at Fitchburg State College provides students the opportunity to complete college coursework at a distance from the college. Distance Learning courses are offered in a variety of ways. The two most common means are over-the-air courses, taught with a connection to a Fitchburg State instructor (these may involve some on-campus meetings), and courses taught over computer network, in which the student is assigned a faculty mentor who communicates with the student, guides the student's progress and evaluates student work. Distance Learning courses originating from Fitchburg State are taken by students both within and outside the United States. Courses are offered on both the bachelor's and master's levels. Students register for these courses through Graduate and Continuing Education. Appropriate tuition and fees apply.

North East Higher Education Distance Learning Consortium

In May 1998, Fitchburg State formally entered into an agreement with Mount Wachusett Community College for the development and presentation of online courses. The organization formed through this agreement, the North East Higher Education Distance Learning Consortium, allows students from both institutions to take courses developed and operated by either institution. Courses offered through the Consortium allow students to conduct studies leading to degrees in business administration or general studies.

Students participating in online courses have several means of conducting research through the FSC library. Access to online library searches, including ERIC, Education Full Text Data Base, Academic Search Fulltext Elite, and Firstsearch, is available through the library home page at www.fsc.edu.

Departmental Policies

Behavioral Sciences, Human Services Program: Policies Governing Student Review, Retention and Dismissal, and Field Work Eligibility

Review, Retention, and Dismissal

Admission into the Human Services Program—Students may enter the Human Services Program (major) either by declaring it as a major upon admission to the college (as a freshman or as an external transfer) or by transferring into the major from another major within the college (internal transfer).

Transferring into the major from another major within the college (internal transfer) necessitates a 2.0 cumulative grade point average, and a determination of suitability for a career in the Human Services field. Suitability will be determined in an interview with one or more Human Services faculty.

Human Services Review Committee—Members of the committee are full-time faculty who teach and/or advise students in the Human Services Program. The committee is responsible for implementing all student related policies of the Human Services Program.

Progress Assessment—All students will be subject to retention review by the Human Services Review Committee following completion of each of the skill component courses listed below. Retention will be based upon suitability for a career in the Human Services field, specifically:

- a cumulative quality point average of 2.5 in required Human Services informational and skill component courses (Informational: Theory, Issues and Practice in Human Services, Introduction to Sociology, General Psychology, Abnormal Psychology, Human Growth and Development; Skill Component: Interviewing Techniques, Social Group Work, and Methods of Case Reporting and Analysis), plus demonstrated writing and oral communication skills
- individual grades of 2.0 or better in the three skill component courses listed above
- demonstrated appropriate Human Services intra-personal and interpersonal behavior, including positive evaluations of student's field practice (150 hours minimum) experiences
- positive written personal statement outlining the student's interest in, strengths and "growth areas" for, and intentions in Human Services

Students whose cumulative Grade Point Average falls between a 2.0 and a 2.49 in Human Services informational and skill component courses, whose grade in each of the skill component courses is at least a 2.0, will be reviewed for retention in the program, and a remedial plan may be developed by the Human Services Review Committee.

Students whose cumulative Grade Point Average in Human Services informational and skill component courses is 2.0 or less, and students who receive less than a 2.0 in Interviewing Techniques, Social Group Work, or Methods of Case Reporting and Analysis, will automatically be reviewed, and a remedial plan developed if advisable. A student who receives less than a 2.0 in any two of these three courses would be deemed inappropriate for the program, and would typically be dismissed. In addition, students who fail to demonstrate appropriate intrapersonal and interpersonal behaviors will be reviewed for dismissal from the program.

If a student's dismissal from the Human Services Program is warranted after review by the Human Services Review Committee, the student will be informed in writing as to: (a) the reason for dismissal, and (b) the procedure for appeal. The Human Services Review Committee will notify the chairperson of the Behavioral Sciences Department, who will then recommend to the Dean of Undergraduate Studies that said student not be retained in the Human Services Program.

Field Work Eligibility

Successful completion of Field Work is required for graduation from the Human Services major. Admission into the major, however, does not guarantee a student's entry into Field Work. Eligibility for Field Work is based upon the successful completion of the following requirements:

- Student attends scheduled meetings for Field Work planning and registration, and required preparatory workshops on practical interviewing and resume writing, during the semester before Field Work is undertaken
- Student has current professional liability insurance coverage (automatic upon enrollment in the Field Work course)
- Student completes the application process for Field Work in a timely manner

Student meets the following eligibility criteria:

- A cumulative grade point average of at least 2.5 in the required Human Services informational and skill component courses, and individual grades of at least 2.0 in the three skill component courses
- Demonstrated effectiveness in written and oral communication skills
- Demonstrated intrapersonal and interpersonal behavior that is appropriate for a human services worker
- Positive recommendations by a majority of faculty members in the Human Services Program
- No incomplete grades in any courses, no probationary status, and no unresolved failures in the student's major field of study
- Successful completion of the courses Social Group Work and Methods of Case Reporting and Analysis at least one semester before beginning of Field Work
- A minimum of 150 hours of supervised experience in practice, including at least three different types of experiences in at least two different placements/settings
- Twelve semester hours, with a minimum of three faculty members, in the Human Services Program
- If a transfer student, meets the residency requirement of at least one full semester of course work in the Human Services Program following admission to the Program and prior to the semester in which Field Work is to be conducted

Students who do not meet these specific eligibility criteria for Field Work may request, in writing, that the Human Services Review Committee waive the policy in question. Applications for waivers must be submitted at the same time as the application for Field Work.

Progress Review

Clinical Laboratory Sciences Department

Technical Standards for Admission

The Department of Clinical Laboratory Sciences faculty have specified the following nonacademic criteria (technical standards or essential functions) that all applicants are expected to meet in order to participate in the program and in professional practice.

Physical Criteria

With or without reasonable accommodations, the applicant must be able to participate actively in all demonstrations, laboratory exercises, and clinical experiences. To do this, the applicant must have sufficient motor skills to operate delicate instruments and to perform delicate procedures. The applicant must have good hand-eye coordination; normal vision with or without correction; sufficient color vision to identify structures within stained cell preparations and to distinguish shades of color in manually read biochemical reactions. The applicant must have the ability to move around the student labs and clinical facilities unassisted.

Behavioral Criteria

The applicant must possess the emotional health necessary to work quickly and accurately under pressure; to be flexible and able to adapt to the changing environment associated with the inherent uncertainties of clinical situations. The applicant must be able to communicate effectively and sensitively with patients, faculty, fellow students, and members of the health care team in order to elicit and transfer information. The applicant must possess the maturity to exercise ethical judgment, honesty, dependability and accountability, and to maintain patient confidentiality.

Intellectual Criteria

The applicant must be able to think critically and logically and be able to correlate information in order to solve problems associated with clinical practice. To do this the applicant must be able to measure, calculate, reason, analyze, evaluate, and synthesize. The applicant must be able to organize tasks and carry them out in a logical, thorough, and efficient manner.

Progress Review

Students are evaluated twice for continuance in the Clinical Laboratory Sciences major. Upon completion of 60 semester hours or upon completion of the core curriculum for the freshman and sophomore years, the program director calculates the GPA in the core curriculum courses. Upon completion of 90 semester hours or upon completion of the curriculum for the freshman, sophomore, and junior years, the program director again calculates the GPA in the core curriculum courses. (See Clinical Laboratory Sciences Program.)

- Students with a GPA of 2.5 or above in the Clinical Laboratory Sciences core curriculum continue in the major.
- Students with a GPA of less than 2.0 are referred to the Dean of Undergraduate Studies with the recommendation that they not be retained in the Clinical Laboratory Sciences major.
- Students with a GPA of 2.0 to 2.49 in the core curriculum are referred to the Clinical Laboratory Sciences Appeals Committee for academic review. The committee may recommend some actions that the student must take in order to remain in the major or may recommend that the student not be retained in the major.

Appeal Mechanism for Committee Review

- A student who has been referred for academic review must submit a written petition to the Clinical Laboratory Sciences Appeals Committee. With the letter of petition, the student may also submit letters of support from his/her academic advisor, instructors, and any other pertinent information which may be relevant to the situation. The Committee reviews the student's record and recommends whether or not the student should continue in the major. Students who do not submit a written petition to the Appeals Committee, are referred to the Dean of Undergraduate Studies with the recommendation that they not be retained in the Clinical Laboratory Sciences major.
- After academic review, the Appeals Committee forwards to the Dean of Undergraduate Studies the names of those students for whom the Committee recommends dismissal from the program. The student is notified in writing of the final decision of the Committee.
- Students who have been allowed to continue in the program after appeal and fail to maintain a 2.5 GPA in the Clinical Laboratory Sciences core curriculum may not petition again for reinstatement. Their names are forwarded to the Dean of Undergraduate Studies with the recommendation that they be dropped from the Clinical Laboratory Sciences major.

Communications/Media Department

Students are evaluated twice for continuation in Communications/Media Department by the Communications/Media Review Committee: once after completing 60 semester hours or upon completion of Communication Theory, Message Design, and the first course in the concentration (Introduction to Film/Video, Graphic Design I, Photography I, or Public Relations), then again after 90 semester hours. The review committee consists of the advisor, a conceptual/methodological instructor, and the instructor of the appropriate above-stated concentration course.

Guidelines for review after completing 60 semester hours

- The advisor calculates the GPA in Communications/Media
- Students with a 2.5 GPA or higher in major are able to continue in the major
- Students with less than a 2.0 are referred to the Chair with a recommendation that the Dean of Undergraduate Studies drop them from the Communications/Media major
- Students receiving between a 2.0 and 2.49 are referred to the department review committee, which does the following:
- Evaluation of academic performance in above stated courses
- Determination of career expectations
- Review of samples of work
- Measure of professional attitude
- Interview between student and review committee

Actions of the Communications/Media Review Committee

If the committee determines that the individual should be permitted to take additional courses to boost GPA to 2.5, then the student may take up to three additional courses in Communications/Media. If, upon completion of any or all of the three courses, the individual achieves the 2.5 GPA in Communications/Media, the individual may continue in the major.

If the individual fails to achieve the 2.5 GPA in Communications/Media, a recommendation that the individual be dropped from the program is forwarded to the Dean of Undergraduate Studies.

Those individuals reviewed by the review committee are notified of the committee's decision no later than three days after the committee has made its determination.

Aside from their duties to the committee, advisors provide career and portfolio counseling during the semesters prior the senior year.

Guidelines for review after completing ninety semester hours

Upon completion of 90 semester hours, students are reviewed for eligibility to participate in an internship program. Eligibility requirements are:

- A 2.5 GPA in Communications/Media
- If GPA is below 2.5, students must complete additional Communications/Media courses to bring their GPA up to required level or submit an application for a waiver from the 2.5 GPA requirement

Internships are described in the *Communications/Media Internship Handbook*.

Nursing

Students in the Nursing Program must achieve a 2.0 or better in all required nursing courses to be in good standing in the major and progress to the next semester. All students in the nursing major must achieve at least 2.0 in Anatomy and Physiology I and II and General Chemistry I and II to be eligible to enroll in Scientific Foundations for Nursing Interventions I, Nutritional Foundations for Nursing Interventions, and/or Nursing Process with the Well Client I. Students in the major may repeat a failed nursing course one time. Failure to achieve a 2.0 when a course is repeated results in dismissal from the major. The repeat policy may be used one time during the course of study.

Teacher Preparation Programs

All students enrolled in degree programs in Education (Early Childhood, Elementary, Middle School, Bilingual, Secondary, Special Education or Technology Education) must be **formally admitted** to the teacher preparation program of their choice. A student's advisor initiates this process, the First Stage Review, when the student has completed 44 credits.

Formal admission requires all of the following:

- Minimum cumulative gpa of 2.5.
- Enrollment in or completion of the appropriate introductory professional course.
- Positive recommendation from the faculty in the student's teacher preparation program.

The First Stage Review also asks a student whether he or she has been convicted of a felony, as defined by the courts of any state (which makes a student ineligible for a teacher preparation program) and requires him or her to sign-off on a list of requirements to be completed prior to student teaching.

A student denied formal admission to a teacher preparation program can appeal to the appropriate department chair.

Admission to the Practicum (Student Teaching)

To participate in the Practicum of their teacher preparation program, students must successfully undergo a Second Stage Review, which requires them to meet all of the following criteria:

- Minimum cumulative gpa of 2.75.
- Minimum 3.0 gpa in professional courses.
- Passing scores on the literacy sections (Reading and Writing) of the Massachusetts Educators Certification Test.
- Successful completion of the tuberculin (Mantoux) screening test.

Transfer students are required to have taken 12 semester hours from at least three different professors within their teacher preparation program prior to student teaching.

Technology Education students are required to have successfully completed PSY 1100, PSY 2230 and PHIL 2000.

The Second Stage Review again asks a student whether he or she has been convicted of a felony, and requires him or her to sign-off on a list of requirements for admission to the Practicum.

Finally, the Second Stage Review requires a positive recommendation from the faculty in the student's teacher preparation program. This includes a review of the student's performance in coursework, the pre-practicum evaluations and the Personal Characteristics Checklist.

A student denied admission to the Practicum can appeal to the appropriate department chair.

Application for Practicum (Student Teaching) Site

In October (for Spring semester) and March (for Fall semester), the Coordinator of Teacher Preparation and Certification holds meetings to explain the site-selection process to students who have been approved to participate in the Practicum.

Students select sites (school and level) from a list of cooperating practitioners who indicated their interest in accepting Practicum students (student teachers). Cooperating practitioners must have professional status, be certified at the appropriate level and area, and be recommended by their principal and/or superintendent. Students DO NOT make contact with school systems or teachers at this time.

Student selections are submitted to the appropriate teacher preparation program for approval. Contracts then are sent to selected schools confirming the Practicum student's assignment.

Once a student is confirmed, she or he must contact the cooperating teacher for an interview. If the cooperating teacher approves the Practicum student's assignment, the student is notified by the Certification Office. If the cooperating teacher objects to the assignment, the Certification Office, in consultation with the student's chairperson, helps the student make a second selection.

During the Practicum, the student is required to follow the school system's schedule, not the FSC schedule.

Application for Provisional Certification with Advanced Standing

In November and March, the Coordinator of Teacher Preparation and Certification holds meetings to explain application procedures and distribute Massachusetts Department of Education forms.

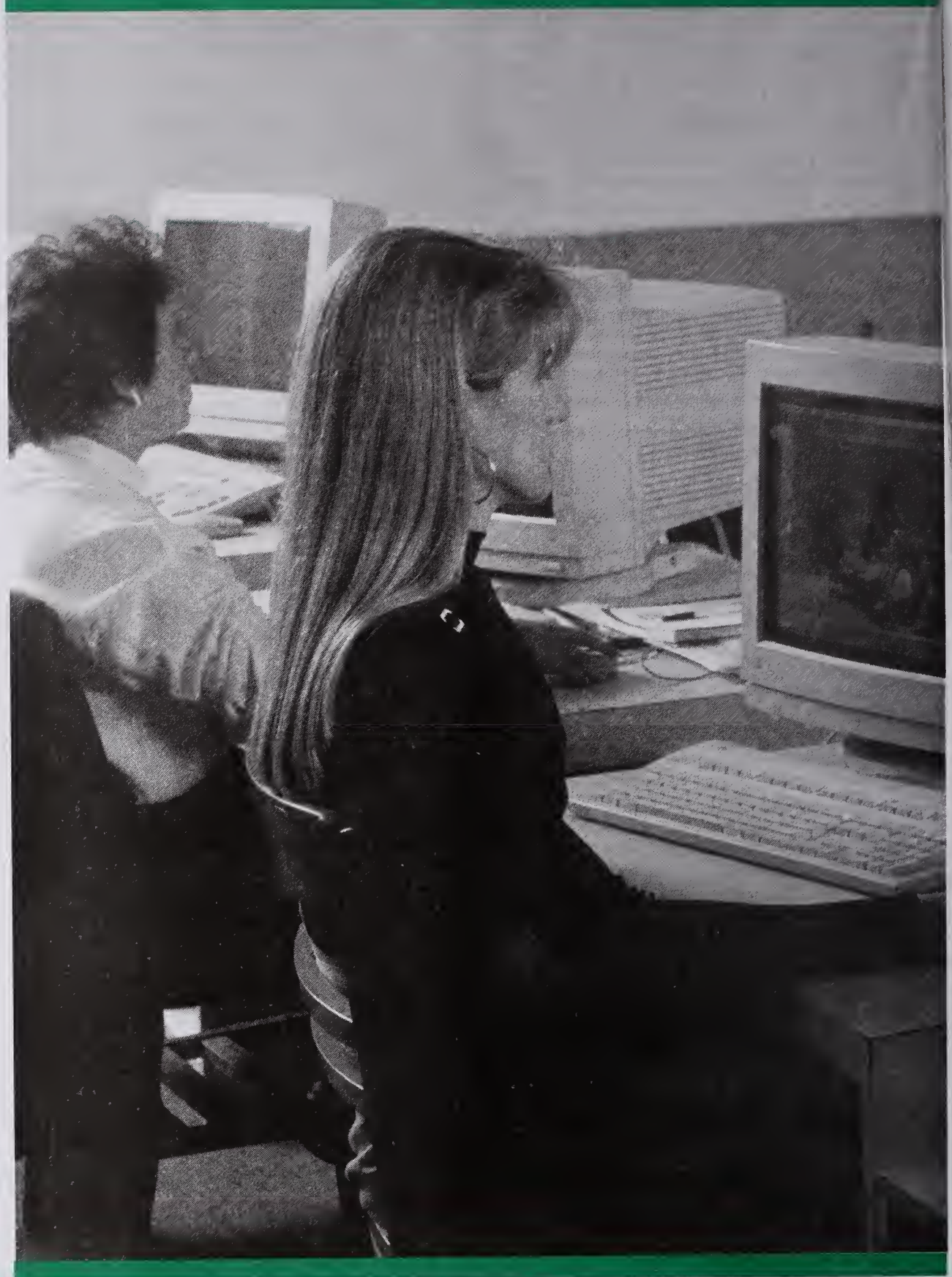
Candidates for certification must:

- Complete the application.
- Provide a copy of the Practicum Report Form for each practicum experience.
- Request a completed transcript(s) from the registrar which will verify successful completion of a teacher preparation major and a Liberal Arts and Science major.

Students should submit all application materials to the Office of the Coordinator of Teacher Preparation and Certification for bulk mailing to the Massachusetts Department of Education. Candidates are discouraged from sending materials on their own.

Upon satisfactory completion of a teacher preparation program, the student receives Fitchburg State College endorsement. To complete certification requirements, students must pass the appropriate subject test of the Massachusetts Educators Certification Test.

Undergraduate Day Programs



Undergraduate Day Programs

The College has seventeen Academic Departments, each headed by a Department Chair. Each department has responsibility for one or more majors or degree programs, tracks within the major and minors. In the following section, the requirements for majors and minors are outlined under each discipline. Required and elective courses in each discipline are defined to help students with course selection.

Academic advisors should always be consulted to ensure that courses are taken in the appropriate sequence and are fulfilling all the requirements needed for graduation. Students should make an appointment with the Department Chairperson for special information about application for admission into a particular major or minor.

Departments	Majors/Concentrations/Tracks	Minors
Bold indicates disciplines available as a major.		
Behavioral Science	**Human Services** Criminal Justice **Psychology** Developmental Psychology Industrial/Organizational Psychology **Sociology**	Criminal Justice Industrial/Organizational Psychology Psychology Public Service Management Sociology Women's Studies
Biology	**Biology** Exercise Science Environmental Science Secondary Education	Biology
Business Administration	**Business Administration** Accounting Fitness Management Management Marketing **Computer Information Systems**	Business Administration Public Service Management
Clinical Lab Sciences/ Chemistry	**Clinical Lab Sciences** Clinical Chemistry Clinical Microbiology Medical Technology	Chemistry
Communications/Media	**Communications/Media** Film/Video Production Photography Technical Communication Graphic Design	Graphics
Computer Science	**Computer Science** **Computer Information Systems**	Computer Science
Early Childhood, Elementary, Middle School, and Bilingual Education	**Early Childhood** **Elementary** **Middle School** **Bilingual Elementary Education**	
English/Speech	**English** Literature Professional Writing Secondary Education Theater	African-American Studies English Theater Women's Studies
Geo/Physical Sciences	**Earth Science** Earth Science/Secondary and Middle School Education **Geography**	Geography/Earth Science/Physics
	Interdisciplinary Studies	
Humanities	**Interdisciplinary Studies** (Humanities) Interdisciplinary Studies/Crafts	Art French German Music Philosophy Spanish
Industrial Technology	**Industrial Technology** Architectural Technology Construction Technology Electronics Engineering Energy Engineering Technology Manufacturing Engineering Graphic Arts Technology Technical Theater Arts **Technology Education**	Industrial Technology Graphics
Leadership Academy		Leadership

(Continued from previous page)

Departments	Majors/Concentrations/Tracks	Minors
Bold indicates disciplines available as a major.		
Mathematics	**Mathematics** Secondary Education	Mathematics
Nursing	**Nursing**	
Physical Education	Exercise Science Fitness Management	Recreation Dance Physical Education
Social Science	**Economics** **History** History/Secondary Education **Political Science**	African-American Studies Criminal Justice Economics History International Studies Political Science Public Service Management Women's Studies
Special Education	**Special Education** Teacher of Students with Special Needs/Elementary PreK-6 Teacher of Students with Intensive Special Needs/Elementary 1-6	

Majors/Degrees/Tracks

Biology
BA Biology
BS Biology
- Biology/Environmental Science
- Biology/Exercise Science

† Biology Secondary Education Program

Business Administration
BS Business Administration
- Accounting
- Computer Information Systems
- Fitness Management
- Management
- Marketing

Clinical Laboratory Science
BS Clinical Laboratory Science
- Clinical Chemistry
- Clinical Microbiology
- Medical Technology

Computer Information Systems

Communications/Media
BS Communications
- Graphic Design
- Film/Video Production
- Photography
- Technical Communication

Computer Science
BS Computer Science
Computer Information Systems

Early Childhood Education
BS Education
† Early Childhood Education Program

Economics
BS Economics

Elementary Education
BS Education
† Elementary Education Program

Bilingual Elementary Education

English
BA/BS Literature
BA Professional Writing
BA Theater
† English Secondary Education Program

Geography
BA Geography
- Geography
- Earth Science

BS Geography
- Geography
- Earth Science

† Earth Science Secondary Education Program

History
BA History
BS History
† History Secondary Education Program

Human Services
BS Human Services
Criminal Justice

Industrial Technology
BS Industrial Technology
- Architectural Technology
- Construction Technology
- Electronics Engineering
- Energy Engineering Technology
- Graphic Arts Technology
- Manufacturing Engineering
- Technical Theater Arts

Interdisciplinary Studies
BA Interdisciplinary Studies
BS Interdisciplinary Studies

Technology Education
† Technology Secondary Education Program

Mathematics
BA Mathematics
BS Mathematics
† Mathematics Secondary Education Program

Nursing
BS Nursing

Political Science
BA Political Science
BS Political Science

Psychology
BA Psychology
BS Psychology

Sociology
BA Sociology
BS Sociology

Middle School Education
BS Education
† Middle School Education Program

Special Education
BS Education
† Special Education Program
Teacher of Students with Special Needs (pre-K-9)/Elementary Teacher
Teacher of Students with Special Needs (5-12)/Elementary Teacher
Teacher of Students with Intensive Special Needs (all levels)/Elementary Teacher

† State regulations require a liberal arts or science major in addition to all professional education programs.
* No new students may enter the chemistry major after fall 1998.

African-American Studies

Chairpersons
Michael Turk
Nancy Yee

Objectives for the African-American Studies Program

The interdisciplinary program in African-American Studies provides courses which examine the cultures, history, and literature of African-American peoples. This course work provides students with new perspectives on the significant roles played by these peoples.

Requirements for the Minor in African-American Studies

This interdisciplinary program requires a minimum of 18 credits. Students may use no more than two of their major courses toward the minor.

Required Courses
AAST 1000 Introduction to African-American Studies

Select One:
AAST/HIST 2300 African American History
AAST/HIST 2930 Modern African History
AAST/HIST 2520 History of African American Women

Select One:
AAST/ENG 2670 20th Century African American Literature
AAST/ENG 2650 Other Voices

Electives (select 3)
AAST/HIST 2300 African American History
AAST/HIST 2930 Modern African History
AAST/HIST 2520 History of African American Women
AAST/ENG 2650 Other Voices
AAST/ENG 2660 19th Century African American Literature
AAST/ENG 2670 20th Century African American History
AAST/SOC 2510 Peoples and Cultures of Africa
AAST/MUSC 3800 History of Jazz
AAST/PHED 1310 African Jazz Dance

Independent Study, Directed Study, or Topics courses that are pertinent to the minor can be selected in consultation with the coordinators of this African-American Studies Minor.

Art

Chairperson
Jane Fiske

Professor	***Associate Professor***	***Assistant Professor***
Donna Bechis	*Susan Wadsworth*	*Petri Flint*

Objectives for the Program in Art

The art program provides undergraduates with a variety of studio and art history courses to increase their aesthetic awareness and skills. Worcester School for Professional Crafts (listed separately) cosponsors a major with the program.

Requirements for the Minor in Art

The minor in art requires a minimum of 18 semester hours, including the following:

Required Studio Courses
Select Two:
ART 1400 Drawing
ART 1450 Introduction to Painting
ART 1600 Design
ART 1650 Three-Dimensional Design
ART 1840 Introduction to Sculpture
ART 2450 Water Based Media

Required Art history Courses
Select Two:
ART 1150 Survey of Art Forms I
ART 1160 Survey of Art Forms II **or**
ART 1100 Art Appreciation
and any other art history course

The remaining six semester hours may be taken from approved art electives in studio art or art history.

*Those concentrating in studio arts are recommended to take Drawing and Design.

Biology

Chairperson
George Babich

Professors	***Associate Professors***	***Assistant Professors***
George Babich	*Alice O'Malley*	*Christopher Cratsley*
George Bond	*Margaret Hoey*	*Michael Nosek*
Stanley Krane		
Howard Thomas		
Robert Zottoli		

Objectives for the Program in Biology

The Biology Department provides undergraduates who wish to major or minor in Biology a variety of courses that can be applied to their specialized major. The department also offers courses in laboratory science for students in all other majors.

Requirements for the Major in Biology

All students in either the Bachelor of Science or Bachelor of Arts programs in Biology (exceptions listed below) are offered a required core sequence of courses:

BIOL	*1800*	*General Biology I*
BIOL	*1900*	*General Biology II*
BIOL	*2300*	*Ecology*
BIOL	*2800*	*Genetics*
BIOL	*3250*	*Cell Biology*
BIOL	*3550*	*Developmental Biology*

In addition, 12 semester hours of additional biology electives at or above the 2000 level are required of biology majors. Electives may be chosen in an area of specialization in consultation with a faculty advisor.

Finally, BA and BS students are required to take courses in related sciences and two courses in mathematics at or above the level of MATH 1250. BA students are required to have foreign language proficiency at the Intermediate level.

Required Courses in Related Sciences

CHEM	*1300*	*General Chemistry I*
CHEM	*1400*	*General Chemistry II*
CHEM	*2000*	*Organic Chemistry I*
CHEM	*2100*	*Organic Chemistry II*
PHYS	*1300*	*General Physics I*
PHYS	*1400*	*General Physics II*

Exceptions: The requirements are slightly modified for the BS in Biology/Environmental Science and the BS in Biology/Exercise Science programs.

Requirements for Provisional Certification for Teaching Biology

All students must be **formally admitted** to the teacher preparation program in Biology. A student's advisor initiates this process, the First Stage Review, when the student has completed 44 credits.

Formal admission requires all of the following:

- Minimum cumulative gpa of 2.5.
- Enrollment in or completion of the appropriate introductory professional course.
- Positive recommendation from the faculty in the student's teacher preparation program.

The First Stage Review also asks a student whether he or she has been convicted of a felony, as defined by the courts of any state (which makes a student ineligible for a teacher preparation program) and requires him or her to sign-off on a list of requirements to be completed prior to student teaching.

A student denied formal admission to a teacher preparation program can appeal to the appropriate department chair.

Admission to the Practicum (Student Teaching)

To participate in the Practicum of their teacher preparation program, students must successfully undergo a Second Stage Review, which requires them to meet all of the following criteria:

- Minimum cumulative gpa of 2.75.
- Minimum 3.0 gpa in professional courses.
- Passing scores on the literacy sections (Reading and Writing) of the Massachusetts Educators Certification Test.
- Successful completion of the tuberculin (Mantoux) screening test.

Transfer students are required to have taken 12 semester hours from at least three different professors within their teacher preparation program prior to student teaching.

The Second Stage Review again asks a student whether he or she has been convicted of a felony, and requires him or her to sign-off on a list of requirements for admission to the Practicum.

Finally, the Second Stage Review requires a positive recommendation from the faculty in the student's teacher preparation program. This includes a review of the student's performance in coursework, the pre-practicum evaluations and the Personal Characteristics Checklist.

A student denied admission to the Practicum can appeal to the appropriate department chair.

Core Requirements

PSY	*2230*	*Adolescent Psychology (LAS)*
BIOL	*2860*	*Introduction to Secondary School Teaching*
ENGL	*4700*	*Teaching Writing in Secondary Schools*
BIOL	*4850*	*Biology Teaching Methods*
BIOL	*4860/ 4870*	*Biology Practicum in a Secondary School (300 hrs.)*

BS in Biology/Environmental Science

The Bachelor of Science in Biology/Environmental Science includes all of the requirements of the BS in Biology with the exception that Organic Chemistry I and II are replaced by Elements of Physical Chemistry (ENCS 3000) and Environmental Analysis (ENSC 4000) and the required four biology electives are replaced by Field Techniques in Environmental Science I and II (ENSC 2000 and 2001) and Internship (ENSC 4950).

Additional requirements are:

- Introduction to Environmental Science (ENSC 1000)
- Geology (GEOG 2100)
- Environmental Hydrology (GEOG 4600)
- Seminar in Environmental Science (ENSC 4100)

BS in Biology/Exercise Science

(See Physical Education.)

All students in the Bachelor of Science in Biology/Exercise Science are offered a required core sequence of the following biology and physical education courses. It differs from the BS in Biology program through the substitution of Anatomy and Physiology II for General Biology II:

BIOL	*1800*	*General Biology I*
BIOL	*1200*	*Anatomy and Physiology I*
BIOL	*1300*	*Anatomy and Physiology II*
BIOL	*1650*	*Nutrition*
BIOL	*2800*	*Genetics*
BIOL	*3250*	*Cell Biology*
BIOL	*3450*	*Biochemistry*
BIOL	*3550*	*Developmental Biology*
PHED	*3070*	*Exercise Physiology*
PHED	*4040*	*Motor Learning*
PHED	*4120*	*Biomechanics of Sport*
*BIOL/ *PHED*	*4950*	*Internship*

** A 2.5 cumulative GPA is required for the internship.*

Requirements for the Minor in Biology

The minor in Biology enables students to demonstrate a substantial and coordinated subsidiary expertise in biological sciences. The minor in Biology requires a minimum of 18 semester hours of course work as follows:

One year (6 or 8 semester hours) of any of the entry-level Biology sequences:

BIOL	*1000*	*Life Science I* **and**
BIOL	*1100*	*Life Science II* **or**
BIOL	*1200*	*Anatomy and Physiology I* **and**
BIOL	*1300*	*Anatomy and Physiology II* **or**
BIOL	*1800*	*General Biology I* **and**
BIOL	*1900*	*General Biology II*

Ten semester hours of 2000, 3000, 4000-level courses selected after consultation with a minors advisor in the Biology Department.

Business Administration

Chairperson

James T. Noonan

Professors	*Associate Professors*	*Assistant Professors*
Howard Cox	*Diane Caggiano*	*John McKeon*
Janette Purcell	*Sylvia Charland*	*Francis Morrison*
Louis Zivic	*Joseph McAloon*	*Gary Vostok*
	James Noonan	*Kwahng Kim*
	Harold Schonbeck	
	Charles Wellens	

Objectives for the Program in Business Administration

The Business Administration Department prepares each student to take a responsible position within the world of business equipped with a knowledge of business theories, policies, and procedures.

The curriculum is based in the liberal arts, coupled with professional courses and a variety of practical business experiences including the opportunity for experiential learning through internships, structured to give the participant an opportunity to apply the theory of the classroom to a specific work experience.

Business and Technology Training Center

The Business and Technology Training Center (formerly known as the Montachusett Economic Center), started at Fitchburg State College in 1981, employs college students and professors to provide management and marketing assistance to a wide variety of local businesses and organizations. These endeavors take the form of marketing research projects, management and marketing audits, small business assistance, seminars, and online database searches.

International Initiatives

The Business Administration Department has established the Center for International Research. Research is conducted by faculty and students on international trade and commerce.

Business and Economic Research Institute

Students and faculty research the latest economic data and banking rates for the region and publish these results.

Requirements for the Major in Business Administration

Concentrations/Options

The Business Administration Program at Fitchburg State College includes concentrations in one of five areas of business: accounting, management, marketing, fitness management, or CIS (Computer Information Systems).

Core Curriculum

BSAD	*2010*	*Introduction to Financial Reporting*
BSAD	*2020*	*Introduction to Managerial Accounting*
BSAD	*3200*	*Principles of Management*
BSAD	*3300*	*Fundamentals of Marketing*
BSAD	*3400*	*Basic Finance*
BSAD	*3500*	*Business Law I*
BSAD	*4890*	*Business Policy and Strategy*

Liberal Arts and Sciences Requirements

SPCH	*1000*	*Speech*
ECON	*1000*	*Macroeconomics*
ECON	*1200*	*Microeconomics*
BSAD	*1700*	*Introduction to Computer Information Systems for Business*
MATH	*1800*	*Business Statistics*
MATH	*2200*	*Calculus for Business*

The courses beyond the core curriculum are open only to Business Administration majors. These upper-level courses are not transferable from another college if they are required within a student's concentration.

Specializations for the Major in Business Administration

Accounting Curriculum

BSAD	*3010*	*Financial Reporting Theory and Practice I*
BSAD	*3020*	*Financial Reporting Theory and Practice II*
BSAD	*3120*	*Cost Accounting*
BSAD	*4010*	*Financial Reporting Theory and Practice III*
BSAD	*4110*	*International Accounting and Taxation*
BSAD	*4120*	*Individual Taxation*
BSAD	*4140*	*Auditing*
BSAD	*4500*	*Business Law II*

One Directed Advanced Elective from the following:

BSAD	*4100*	*Consolidations and Mergers* **or**
BSAD	*4130*	*Corporate, Estate, and Gift Taxation* **or**
BSAD	*4160*	*Not-for-Profit Accounting*

Management Curriculum

BSAD	*3210*	*Human Resources Management*
BSAD	*3220*	*Production Management*
BSAD	*4200*	*Organizational Behavior and Theory*
BSAD	*4210*	*Social and Political Environment of Business*
BSAD	*4230*	*Business Fluctuations and Forecasting*
BSAD	*4880*	*International Business Management*

Marketing Curriculum

BSAD	*3310*	*Consumer Behavior*
BSAD	*3320*	*Market Research*
BSAD	*3330*	*Advertising*
BSAD	*4880*	*International Business Management*

In addition, three marketing electives (from list below) are also required:

BSAD	*3340*	*Small Business Management*
BSAD	*3350*	*Total Quality Management*
BSAD	*4300*	*Sales Management*
BSAD	*4310*	*Retail Marketing*
BSAD	*4320*	*Industrial Marketing*
BSAD	*4330*	*International Marketing*
BSAD	*4340*	*Developing Marketing Strategies*

Business Administration/Fitness Management

(See Exercise and Sport Science.)

BIOL	*1200*	*Anatomy and Physiology I*
BIOL	*1300*	*Anatomy and Physiology II*
BIOL	*1650*	*Nutrition* **or**
PHED	*3060*	*Exercise, Nutrition and Heart Disease*
PHED	*2090*	*Standard First Aid/CPR*
PHED	*3070*	*Exercise Physiology*
PHED	*3450*	*Exercise Testing and Prescription*
PHED	*4030*	*Physical Education Fitness and Sport: An Overview*
BSAD	*4880*	*International Business Management*
PHED	*4950*	*Internship Fitness Management*
		Physical Education Elective (Choose any one physical activity or dance elective.)

Business/Computer Science: Computer Information Systems Curriculum

(See Computer Information Systems.)

Requirements for the Minor in Business Administration

The minor in Business Administration consists of 18 credits. The following four courses are required:

BSAD	*2010*	*Introduction to Financial Reporting*
BSAD	*3200*	*Principles of Management*
BSAD	*3300*	*Fundamentals of Marketing*
BSAD	*3500*	*Business Law I*

Two business electives must also be taken. Two of the six required courses may be transferred from another college. Students minoring in Business Administration may take a maximum of two upper-level courses. These courses must be taken at Fitchburg State College and they must be approved by the Department Chairperson.

Chemistry

Acting Chairperson
Wanda Roguski

Professors	***Associate Professors***
Judith Ciottone	*Da-hong Lu*
Pushkar Kaul	*Meledath Govindan*
Daniel V. Robinson	

Students currently enrolled as chemistry majors may complete a Bachelor of Science or a Bachelor of Arts degree in chemistry. No new students may enter the chemistry major after fall 1999. Any student may select a chemistry minor.

Requirements for the Minor in Chemistry

A Minor in Chemistry consists of:

CHEM	*1300*	*General Chemistry I*
CHEM	*1400*	*General Chemistry II*
CHEM	*2000*	*Organic Chemistry I*
CHEM	*2100*	*Organic Chemistry II*
CHEM	*3000*	*Analytical Chemistry I*

One course selected from Analytical Chemistry II, Physical Chemistry I, Physical Chemistry II, Advanced Inorganic Chemistry, Radiation Chemistry, or Forensic Chemistry, or Natural Products.

Clinical Laboratory Sciences

Acting Chairperson
Wanda Roguski

Professor	***Associate Professor***	***Assistant Professors***
Dorothy Boisvert	*Wanda Roguski*	*David Grenache*
		Elizabeth Szymczak

Objectives for the Program in Clinical Laboratory Sciences

The Clinical Laboratory Sciences major prepares students to obtain positions in hospital, research, industrial, zoological, and private laboratories as well as to become sales and technical representatives for a variety of industrial corporations. Students are eligible to take certification exams given by the National Credentialing Agency for Medical Laboratory Personnel, American Society of Clinical Pathologists, and other national agencies. The program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences. (www.naacls.org or 773-714-8880)

Requirements for the Major in Clinical Laboratory Sciences (Medical Technology)

Students in the Clinical Laboratory Sciences major develop skills in the basic sciences that serve as the foundation upon which their clinical courses are built. During the first three years, students are introduced to the profession of Clinical Laboratory Science and the clinical courses necessary to practice in the profession. During senior year, students take advanced courses in Clinical Laboratory Science. Skills are developed in well-equipped, modern laboratories similar to those found in both hospital and industrial settings.

Students may choose one of three tracks—Medical Technology, Clinical Chemistry, or Clinical Microbiology.

All students in the CLS program are required to take the following courses:

Core Requirements

BIOL	*1800*	*General Biology I*
BIOL	*2800*	*Genetics*
BIOL	*3900*	*Microbiology*
BIOL	*4810*	*Immunology*
CHEM	*1300*	*General Chemistry I*
CHEM	*1400*	*General Chemistry II*
CHEM	*2000*	*Organic Chemistry I*
CHEM	*2100*	*Organic Chemistry II*
CSC	*1100*	*Computer Applications Programming*
MATH	*1700*	*Applied Statistics*
PSY	*2640*	*Performance Appraisal and Development*
CLS	*1000*	*Introduction to Clinical Laboratory Sciences*
CLS	*2100*	*Basic Lab Skills*
CLS	*3000*	*Professional Issues*
CLS	*3100*	*Human Biochemistry I*
CLS	*3150*	*Human Biochemistry II*
CLS	*3200*	*Immunoassay/Clinical Virology*

Specializations for the Major in Clinical Laboratory Sciences

Medical Technology Track

CLS	*2000*	*Basic Hematology*
CLS	*3400*	*Parasitology/Mycology*
CLS	*4000*	*Clinical Hematology I*
CLS	*4050*	*Clinical Hematology II*
CLS	*4200*	*Clinical Chemistry I*
CLS	*4250*	*Clinical Chemistry II*
CLS	*4400*	*Clinical Microbiology I*
CLS	*4450*	*Clinical Microbiology II*
CLS	*4600*	*Immunohematology I*
CLS	*4650*	*Immunohematology II*
CLS	*4800*	*Clinical Correlations I*
CLS	*4850*	*Clinical Correlations II*

Clinical Chemistry Track

CHEM	*3000*	*Analytical Chemistry I*
CHEM	*3500*	*Analytical Chemistry II*
CLS	*2000*	*Basic Hematology*
CLS	*4200*	*Clinical Chemistry I*
CLS	*4250*	*Clinical Chemistry II*
CLS	*4300*	*Issues in Clinical Chemistry I*
CLS	*4350*	*Issues in Clinical Chemistry II*

Clinical Microbiology Track

CLS	*3400*	*Parasitology/Mycology*
CLS	*4400*	*Clinical Microbiology I*
CLS	*4450*	*Clinical Microbiology II*
CLS	*4100*	*Issues in Clinical Microbiology I*
CLS	*4150*	*Issues in Clinical Microbiology II*

Graduation from the CLS program is not contingent upon passing a certification exam.

Communications/Media

Chairperson
Wayne Munson

Professors	***Associate Professor***	***Assistant Professors***
George Bohrer	*Ann Mrvica*	*John Chetro-Szivos*
Peter Laytin		*Robert Harris*
Wayne Munson		*Gunther Hoos*
Helen Obermeyer Simmons		*Randy Howe*
Charles Sides		*Jon Krasner*
		Charles Roberts
		Jeffrey Warmouth

Instructor
Robert Goald

Objectives for the Program in Communications/Media

The Communications/Media Program prepares individuals to assume communication positions as freelancers, independent producers, or employees of corporations, institutions, and media organizations.

The program provides a blend of the principles and practices necessary for the effective design, production, and evaluation of media for information presentation by graphic, photographic, film, video, electronic, and print technologies. In combination with the Liberal Arts and Sciences Program, Communications/Media fosters the development of skills critical to adapting to an ever changing technological and knowledge-based society.

Requirements for the Major in Communications/Media

The Bachelor of Science degree in Communications/Media requires 54 semester hours in its major requirements. Course requirements are organized into five phases.

Phase I Freshman Introductory Requirements

Phase I exposes students to the foundations, concepts, and practices used in the preparation, delivery, evaluation, and research of verbal and visual messages.

Required Courses

COMM	*1105*	*Systems and Theories of Communication*
COMM	*1120*	*Message Design*

Phase II Applied Concentration

Phase II enables students to become involved with an in-depth investigation of an area in communications which is most closely aligned with individual talents and interests. Students must select and complete one concentration with the consent of their advisor. A minimum of five required courses must be taken within a concentration.

Film/Video Production Concentration

Required Courses

COMM 3505 Introduction to Film and Video
COMM 3580 Studio Lighting and Production

Film Required Courses

COMM 3710 Intermediate Film Production
COMM 3720 Advanced Film Production
COMM 3740 Advanced Digital Production

Video Required Courses

COMM 3520 Intermediate Video Production
COMM 3540 Advanced Video Production
COMM 3740 Advanced Digital Production

Elective Courses

COMM 2320 Script Writing
COMM 3530 Post-Production
COMM 3550 Production Management
COMM 3730 Directing Video/Film

Graphic Design Concentration

Required Courses

COMM 3810 Graphic Design I
COMM 3820 Graphic Design II
COMM 3890 Computer Graphic Design
COMM 4270 Pre-press Production

Elective Courses

COMM 2330 Color Theory
COMM 3830 Graphic Design III
COMM 3840 Graphic Management
COMM 3850 Publication Design
COMM 3880 Typography
COMM 3900 Graphic Design Photography
COMM 3910 Graphic Arts Production
COMM 3920 Advanced Computer Graphic Design

Photography Concentration

Required Courses

COMM 3600 Photography I
COMM 3610 Photography II
COMM 3620 Photography III
COMM 3630 Large Format Photography
COMM 3645 Digital Photography

Elective Courses

COMM 3640 Color Photography
COMM 3660 Photo Management
COMM 3690 Photography Seminar

Technical Communication Concentration

Required Courses

COMM 3304 Multimedia Project Design
COMM 3430 Writing for Advertising
COMM 3460 Public Relations
COMM 3470 Technical Documentation
COMM 3860 Writing for Business and Technology

Elective Courses

COMM 2320 Script Writing
COMM 2800 Journalism
COMM 3870 Feature and Magazine Writing

Note: It is recommended that students take the history course related to their concentration as part of their Liberal Arts and Sciences program. These courses include History of Film, History of TV, History of Graphic Design, and History of Photography.

Phase III Advanced Electives

Following or concurrent with Phase II, students, in consultation with their advisor, select one of the following options:

- Four additional courses in the same concentration
- Four courses in another concentration
- Four courses from a combination of concentrations, including additional theory, conceptual, or methodological courses
- The multimedia module

COMM 3304 Multimedia Project Design
COMM 3305 Multimedia Tools and Techniques
COMM 3306 Interactive Media
COMM 3307 Multimedia Production
COMM 3308 Multimedia Seminar
COMM 3890 Computer Graphic Design

Phase IV Upper-Level Theory/Conceptual/ Methodological Requirements

Students in their junior/senior year will take the following:

Media Workplace Dynamics

Requirement

COMM 4200 Human Communications Technology

Junior Writing Requirement (Select One)

COMM 2800 Journalism
COMM 3860 Writing for Business and Technology
COMM 4240 Media Criticism

Electives (Select One)

COMM 4210 Instructional Training Design
COMM 4220 Organizational Communication
COMM 4230 Communications Law and Ethics
COMM 4240 Media Criticism (unless used for junior writing requirement)
COMM 4250 Research Seminar
COMM 4205 Seminar in Communication Theory

Communications Studies Concentration

This concentration provides for advanced studies of the theoretical constructs necessary for strategic analysis, design, application, research, and evaluation of a variety of media systems. It provides foundational preparation for graduate studies in communications and a number of allied fields.

Requirements: Phase I and II, plus the following courses from Phases III and IV: COMM 4230, COMM 4240, COMM 4250, 2–3 electives, and Phase V.

Phase V Integrated Studies

This required senior level phase provides an opportunity for students to apply their knowledge and skills in a professional environment.

Required Course

COMM 4880 Internship

Enrichment Courses

COMM 4260 Advanced Professional Study
COMM 4901 Independent Study
COMM 4902 Independent Study
COMM 4903 Independent Study
COMM 4906 Independent Study
COMM 4940 Field Study
COMM 4950 Field Study

Requirements for the Minor in Graphics

An interdisciplinary minor in graphics is offered in conjunction with the Computer Science and Industrial Technology Departments. See Graphics in this catalog for an explanation of program requirements.

Computer Information Systems

Chairpersons

Nadimpalli Mahadev
James Noonan

Objectives for the Program in Computer Information Systems

The program is designed to prepare students to be systems analysts, programmers, project managers, business analysts, and consultants in business settings by providing them with the opportunity to learn business and computer skills.

Requirements for the Interdisciplinary Track in Computer Information Systems

The Computer Information Systems Program offers an interdisciplinary track which incorporates courses from both the Business Administration and Computer Science Departments.

Each student who selects this interdisciplinary track has two advisors, a Business Administration faculty member and a Computer Science faculty member.

The program in Computer Information Systems must include:

Select One:

BSAD 1700 Introduction to Business Data Processing **or**
**CSC 1100 Computer Application Programming I*

Required Courses

CSC 1500 Computer Science I
CSC 1550 Computer Science II
CSC 2500 Assembly Language Programming
CSC 2560 Systems Programming
CSC 2700 COBOL-I
CSC 3200 Programming Languages
CSC 3450 Local Area Networks
BSAD 2010 Introduction to Financial Reporting
BSAD 2020 Introduction to Managerial Accounting
BSAD 3200 Principles of Management
BSAD 3300 Fundamentals of Marketing
BSAD 3400 Basic Finance
BSAD 3500 Business Law I
**MATH 1800 Business Statistics*
**MATH 2200 Calculus for Business*
BSAD 3710 Systems Analysis Methods
BSAD 4700 Structured Systems Analysis and Design

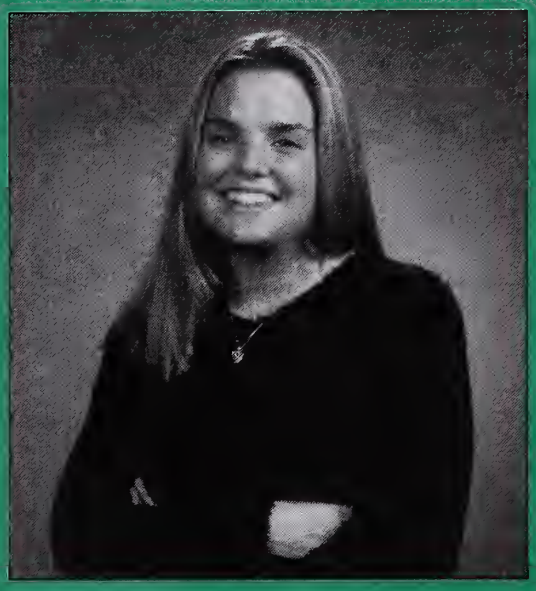
Select One:

BSAD 4720 Database Management Systems **or**
CSC 4500 Database Design

Select One:

ECON 1000 Principles of Economics: Macro **or**
ECON 1200 Principles of Economics: Micro* **or
ECON 1250 Introduction to the U.S. Economy

PROFILE



Kim Priestley
Undergraduate Day Student

Kim is a junior at Fitchburg State, studying special education and psychology. In addition to her schoolwork, Kim also puts in about 20 hours each week as the building manager for FSC's campus center. She helped establish the FSC Volunteer Center, which matches the needs of local non-profit organizations with student volunteers, and is a volunteer herself — she does one-on-one mentoring and tutoring at Fitchburg High School for at-risk students. In her spare time, Kim enjoys intramural softball and stays fit by working out in the FSC gym. She says her goal is to be a high school special-needs teacher, and believes her time at FSC will prepare her for that career. "College years are like practice for the real world," she notes. "You'll do fine as long as you have your priorities straight and get your work done."

Computer Science

Chairpersons
Nadimpalli Mahadev

Professor	***Associate Professors***	***Assistant Professors***
Robert McGuire	*Frank Archambeault*	*Natalia Kourtonia*
	Gerald Johnson	*Kevin Austin*
	Frits Lander	*Lori Leonard*
	Nadimpalli Mahadev	

Objectives for the Program in Computer Science

The Computer Science Program provides the opportunity for students to develop a unique blend of knowledge and skills in the areas of computer software, computer hardware, and mathematics. The program is oriented to software and hardware engineering and prepares students for positions within organizations that design and construct hardware and/or software systems.

Requirements for the Major in Computer Science

The Degree of Bachelor of Science in Computer Science must include:

CSC	*1500*	*Computer Science I*
CSC	*1550*	*Computer Science II*
CSC	*1600*	*Introduction to Electronics*
CSC	*1650*	*Digital Electronics*
CSC	*2500*	*Assembly Language Programming*
CSC	*2560*	*Systems Programming*
CSC	*2600*	*Computer Organization*
CSC	*3100*	*Operating Systems*
CSC	*3600*	*Microprocessors*
CSC	*3700*	*Algorithms and Data Structures*
MATH	*2300*	*Calculus I*
MATH	*2400*	*Calculus II*
MATH	*2600*	*Linear Algebra*
MATH	*3100*	*Discrete Algebraic Structures*
PHYS	*1300*	*General Physics II*
PHYS	*1400*	*General Physics II*
		15 semester hours of Advanced Computer Science Electives with a course number greater than CSC 2560 **and**
		Math elective above MATH 2400

Requirements for the Minor in Computer Science

A minor in Computer Science consists of the following courses:

CSC	*1500*	*Computer Science I*
CSC	*1550*	*Computer Science II*
CSC	*2560*	*Systems Programming*
CSC	*3200*	*Programming Languages*
		2 Computer Science electives at or above the 2000 level

Criminal Justice

Chairpersons
John Hancock
Michael Turk

Assistant Professor
Fazal Ahmed

Objectives for the Program in Criminal Justice

The Criminal Justice Program provides students with courses which can lead to a minor or interdisciplinary track combining Human Services, Sociology, Psychology, and Political Science. The courses provide a foundation for employment in the Criminal Justice field and graduate work.

Requirements for the Interdisciplinary Track in Criminal Justice

As part of their Liberal Arts and Sciences requirements, all students in the Criminal Justice Track must complete:

PSY	*2200*	*Human Growth and Development*
PSY	*2350*	*Abnormal Psychology*

Core Requirements (18 semester hours)

CJ/HMSV	*2000*	*Introduction to Criminal Justice**
CJ/HMSV	*2050*	*Principles and Practice of Law Enforcement*
CJ/HMSV	*2650*	*Correctional Theory and Practice*
POLS	*2270*	*Introduction to Legal Process*
SOC	*2750*	*Criminology*
CJ	*4000*	*Seminar in Criminal Justice*

Elective Courses (18 semester hours)

Each student will select at least 18 semester hours of electives from the following courses in consultation with their advisor, with at least one course each from Sociology, Human Services, and Psychology coursework.

CJ/HMSV	*2600*	*Juvenile Justice*
CJ/HMSV	*3300*	*Community-Based Corrections*
POLS	*3600*	*Civil Rights and Civil Liberties in the U.S.*
PSY	*2370*	*Interpersonal Effectiveness*
PSY	*2500*	*Social Psychology*
PSY	*2400*	*Psychology of Captivity*
/SOC	*2700*	*Social Problems*
SOC	*2760*	*Juvenile Delinquency*
SOC	*3500*	*Law and Society*
CJ/SOC	*4970*	*Internship*

**This course is a prerequisite to all CJ/HMSV classes, CJ/SOC 4000, and CJ/SOC 4970.*

Students interested in concentrating their studies and/or conducting their internship *in direct service work* must meet the policies of the Behavioral Sciences Department, receive approval from the Criminal Justice Review Committee, and successfully complete the following Human Services courses in addition to the core requirements:

HMSV	*1100*	*Theory, Issues, and Practice in Human Services*
HMSV	*2500*	*Interviewing Techniques*
HMSV	*2900*	*Social Group Work** **and/or**
HMSV	*3800*	*Case Methods and Reporting and Analysis*

** Specific course requirement will be determined in consultation with student's advisor, depending on the nature of the internship placement.*

** Students have the option of selecting an internship of 6 or 12 credits over one or two semesters. All internships shall be conducted in accordance with existing policies in the Department of Behavioral Sciences. A 6-credit (15 hours) internship will count as Criminal Justice elective coursework. A 12-credit (30 hours) internship will count equally as coursework in Criminal Justice electives (6 credits) and in general electives (6 credits).*

Course descriptions can be found listed within the following disciplines: Human Services, Political Science, Psychology, and Sociology. Please refer to the course description section for more information.

Requirements for the Minor in Criminal Justice

An interdisciplinary minor in Criminal Justice is offered by the Departments of Behavioral Sciences and Social Sciences. This 18-credit minor combines courses from Human Services, Psychology, Political Science, and Sociology.

** Students who have declared majors in Human Services, Psychology, or Sociology may use no more than two of their major courses toward the minor.*

Required Courses (9 semester hours)

HMSV	*2000*	*Introduction to Criminal Justice*
SOC	*2750*	*Criminology*
POLS	*2270*	*Introduction to the Legal Process* **or**
SOC	*3500*	*Law and Society*

Note: If both POLS 2270 and SOC 3500 are taken, one counts as "Required" and the other as "Elective."

Electives (9 semester hours)

HMSV	*3300*	*Community Based Corrections*
HMSV	*2600*	*Juvenile Justice*
HMSV	*3500*	*The Abuse and Neglect of Children*
POLS	*2270*	*Introduction to the Legal Process*
POLS	*3600*	*Civil Rights and Civil Liberties*
PSY	*2400*	*Psychology of Captivity*
SOC	*3500*	*Law and Society*
SOC	*2760*	*Juvenile Delinquency*
SOC	*2500*	*Race and Ethnic Relations*
SOC	*2500*	*Drugs and Alcohol*
SOC	*2440*	*Urban Sociology*
SOC	*3000*	*Social Stratifications*

Early Childhood, Elementary, Middle School, and Bilingual Education

Chairperson
Ronald Colbert

Professors	***Associate Professors***	***Assistant Professors***
Ronald Colbert	*Daniel Nomishan*	*Pamela Hill*
Rona Flippo	*Diana Suskind*	*Laurie DeRosa*
Charles Hetzel		*Sanford Pliskin*
George Miller		*Monica Wyatt*

Objectives for the Programs in Early Childhood, Elementary, Middle School, and Secondary Education

The Early Childhood, Elementary, Middle School, and Bilingual Education Programs integrate a grounding in the Liberal Arts and Sciences with a comprehensive foundation in pedagogy that results in preparation of highly competent teachers. The department's strength rests in its underlying philosophy that supports the development of educators who are reflective, person-centered practitioners able to effectively construct, articulate, and apply educational theory and research so as to be responsive to current and future educational needs of the individuals and families they serve.

The department prepares its graduates to be Teachers of Early Childhood (grades N-3), Teachers of Elementary (grades 1-6), Teachers of Middle School (grades 5-9), and Teachers of Bilingual Elementary (Spanish.)

Description of the Program

All teacher education majors graduate with a dual major in Education and in Liberal Arts and Sciences. The Liberal Arts and Science major is required of all future teachers by the state of Massachusetts and Fitchburg State College.

Teacher education majors (Early Childhood, Elementary, Middle School, and Bilingual) place emphasis on college coursework that honors cultural, racial, linguistic and social diversity. No less than 36 semester hours of coursework is integrated with a variety of field-based experiences in schools. Student field-based experiences begin early in the majors and are enhanced by strong departmental collaboration with exemplary schools and practitioners in the region. Many students enjoy opportunities to foster attitudes and skills for creative, collegial teaching in the diverse and changing environment of our McKay Campus School.

The Early Childhood Club, Education Club and Kappa Delta Pi Honor Society offer students the opportunity to grow professionally while meeting with students of similar interests.

Requirements for the Major in Early Childhood, Elementary, Middle School, and Bilingual Education Majors

Majors in Early Childhood, Elementary, Middle School, and Bilingual Education also require a major in the Liberal Arts and Sciences.

Teacher Preparation Programs

All students enrolled in degree programs in Early Childhood, Elementary, Middle School, and Bilingual Education must be **formally admitted** to the teacher preparation program of their choice. A student's advisor initiates this process, the First Stage Review, when the student has completed 44 credits.

Formal admission requires all of the following:

- Minimum cumulative gpa of 2.5.
- Enrollment in or completion of the appropriate introductory professional course.
- Positive recommendation from the faculty in the student's teacher preparation program.

The First Stage Review also asks a student whether he or she has been convicted of a felony, as defined by the courts of any state (which makes a student ineligible for a teacher preparation program) and requires him or her to sign-off on a list of requirements to be completed prior to student teaching.

A student denied formal admission to a teacher preparation program can appeal to the appropriate department chair.

Students must have a 2.75 to transfer into any of these programs.

Admission to the Practicum (Student Teaching)

To participate in the Practicum of their teacher preparation program, students must successfully undergo a Second Stage Review, which requires them to meet all of the following criteria:

- Minimum cumulative gpa of 2.75.
- Minimum 3.0 gpa in professional courses.
- Passing scores on the literacy sections (Reading and Writing) of the Massachusetts Educators Certification Test.
- Successful completion of the tuberculin (Mantoux) screening test.

Transfer students are required to have taken 12 semester hours from at least three different professors within their teacher preparation program prior to student teaching.

The Second Stage Review again asks a student whether he or she has been convicted of a felony, and requires him or her to sign-off on a list of requirements for admission to the Practicum.

Finally, the Second Stage Review requires a positive recommendation from the faculty in the student's teacher preparation program. This includes a review of the student's performance in coursework, the pre-practicum evaluations and the Personal Characteristics Checklist.

A student denied admission to the Practicum can appeal to the appropriate department chair.

Early Childhood Education (N-3)

Required Courses

EDUC	*1100*	*Early Childhood Foundations*
EDUC	*1600*	*Behavioral Science in Early Childhood*
EDUC	*2100*	*Reading in Early Childhood Education*
EDUC	*2200*	*Language Arts in Early Childhood Education*
EDUC	*2400*	*Fine Arts in Early Childhood Education*
EDUC	*3100*	*Science, Math, and Social Studies in Early Childhood Education*
EDUC	*4050*	*Senior Seminar in Early Childhood Education*
EDUC	*4862*	*Practicum in Early Childhood Education I*
EDUC	*4863*	*Practicum in Early Childhood Education II*

External Requirements

Liberal Arts and Sciences Distribution which includes:

BIOL	*1000*	*Life Science I* **or**
BIOL	*1100*	*Life Science II*
HIST	*1000*	*World Civilization I* **or**
HIST	*1100*	*World Civilization II* **or**
HIST	*1150*	*World Civilization III*
HIST	*1400*	*US History I* **or**
HIST	*1500*	*US History II*
PHYS	*1100*	*Physical Science I* **or**
PHYS	*1100*	*Physical Science II*
PSY	*1100*	*General Psychology*
		Liberal Arts and Sciences or Interdisciplinary Studies Major

Elementary Education (1-6)

Required Courses

EDUC	*2750*	*Science in Education*
EDUC	*3000*	*Principles and Practices in Education*
EDUC	*3020*	*Teaching Mathematics*
EDUC	*3030*	*Reading in Education*
EDUC	*3500*	*Creative Arts in Elementary Education*
EDUC	*3600*	*Social Studies in Education*
EDUC	*3640*	*Reading in the Content Areas*
EDUC	*4010*	*Foundations Seminar*
EDUC	*4100*	*Language Arts in Education*
EDUC	*4882*	*Practicum in Elementary I*
EDUC	*4883*	*Practicum in Elementary II*

External Requirements

Liberal Arts and Sciences Distribution which includes:

BIOL	*1000*	*Life Science I* **or**
BIOL	*1100*	*Life Science II*
HIST	*1000*	*World Civilization I* **or**
HIST	*1100*	*World Civilization II* **or**
HIST	*1150*	*World Civilization III*
HIST	*1400*	*US History I* **or**
HIST	*1500*	*US History II*
MATH	*1400*	*Mathematics Across the Curriculum*
PHYS	*1100*	*Physical Science I* **or**
PHYS	*1100*	*Physical Science II*
PSY	*1100*	*General Psychology*
PSY	*2210*	*Child Psychology*
		Liberal Arts **or** *Sciences* **or** *Interdisciplinary Studies Major*

Middle School Education (5-9)

Required Courses

EDUC	*2750*	*Science in Education*
EDUC	*3000*	*Principles and Practices in Education*
MATH	*3020*	*Teaching Mathematics*
EDUC	*3070*	*The Middle School Concepts*
EDUC	*3600*	*Social Studies in Education*
EDUC	*3660*	*Curriculum and Instruction in Middle School*
EDUC	*3640*	*Reading in the Content Areas*
EDUC	*4010*	*Seminar: Foundations in Education*
EDUC	*4100*	*Language Arts in Education*
EDUC	*4885*	*Practicum in Middle School I*
EDUC	*4886*	*Practicum in Middle School II*

External Requirements

Liberal Arts and Sciences Distribution which includes:

BIOL	*1000*	*Life Science I* **or**
BIOL	*1100*	*Life Science II*
HIST	*1000*	*World Civilization I* **or**
HIST	*1100*	*World Civilization II* **or**
HIST	*1150*	*World Civilization III*
HIST	*1400*	*US History I* **or**
HIST	*1500*	*US History II*
MATH	*1400*	*Mathematics Across the Curriculum*
PHYS	*1100*	*Physical Science I* **or**
PHYS	*1100*	*Physical Science II*
PSY	*1100*	*General Psychology*
PSY	*2210*	*Adolescent Psychology*
		Liberal Arts and Sciences or Interdisciplinary Studies Major

Bilingual Elementary Education (Spanish)

All Elementary Education Core Courses and Bilingual Professional Sequence

EDUC	*5100*	*Introduction to Bilingual Education*
EDUC	*5200*	*Theory of Language and Second Language Acquisition*
EDUC	*5300*	*Bilingual Teaching Methods and Strategies*
EDUC	*5400*	*Assessment and Evaluation of Bilingual Programs*
EDUC	*5500*	*Bilingual Practicum*
EDUC	*5600*	*Bilingual Seminar*

External Requirements

Liberal Arts and Sciences Distribution which includes:

BIOL	*1000*	*Life Science I* **or**
BIOL	*1100*	*Life Science II*
HIST	*1000*	*World Civilization I* **or**
HIST	*1100*	*World Civilization II* **or**
HIST	*1150*	*World Civilization III*
HIST	*1400*	*US History I* **or**
HIST	*1500*	*US History II*
HIST	*2700*	*Mexico, Central America, and Caribbean History* **or**
HIST	*2750*	*South American History*
IDIS	*1100*	*Women in Latin America*
PHYS	*1100*	*Physical Science I* **or**
PHYS	*1100*	*Physical Science II*
SOC	*1100*	*Introduction to Sociology*
SOC	*2250*	*Cultural Anthropology* **or**
SOC	*2500*	*Race and Ethnic Relations*
SPAN	*3000*	*Hispanic Culture*
SPAN	*3500*	*Spanish Conversation and Composition*
SPAN	*4100*	*Practical Spanish Public Svc. II or beyond*

Economics

Chairperson
Michael Turk

Professor	***Associate Professors***
Nancy Wiegersma	*Pirudas Lwamugira*
	Michael Turk

Objectives for the Program in Economics

The Economics Program offers Liberal Arts and Sciences courses which focus on understanding the principles of economics for private enterprise market economies especially, the United States economy, as well as the workings of the global economy. The program offers both a major and a minor to students who are interested in a career in Economics or Business.

Requirements for the Major in Economics

The degree of Bachelor of Science in Economics requires 36 credits:

ECON	*1000*	*Principles of Macroeconomics*
ECON	*1200*	*Principles of Microeconomics*
ECON	*2400*	*Money and Banking*
ECON	*3000*	*History of Economic Thought*
ECON	*3650*	*Intermediate Macroeconomics*
ECON	*3660*	*Intermediate Microeconomics*
MATH	*2200*	*Calculus for Business*
MATH	*1800*	*Business Statistics*

Four courses selected from the following:

ECON	*1300*	*Consumer Economics*
ECON	*2200*	*Comparative Economic Systems*
ECON	*2450*	*Human Resource Economics*
ECON	*2500*	*Economic Development*
ECON	*2550*	*Urban Economics*
ECON	*2600*	*Public Finance*
ECON	*3550*	*International Economics*
ECON	*3700*	*Econometrics*
ECON	*3750*	*Managerial Economics*
ECON	*4900*	*Independent Study in Economics*
ECON	*4940*	*Internship in Economics*
ECON	*5000*	*Topics in Economics*
GEOG	*3000*	*Economic Geography*
BSAD	*4230*	*Business Fluctuations and Forecasting*

Requirements for the Minor in Economics

A minor in Economics requires:

ECON	*1000*	*Principles of Macroeconomics*
ECON	*1200*	*Principles of Microeconomics*
		Four courses selected from courses listed for the Economics major.

English

Chairperson
Nancy Yee

Professors	***Associate Professors***	***Assistant Professors***
Janice Alberghene	*Roberta Adams*	*Irene Martyniuk*
Judith Budz	*Colin Bourn*	*Lisa Gim*
Arnold Gordenstein	*Chola Chisunka*	*Patrice Gray*
William Keough	*Nancy Kelly*	*Marguerite Roumas*
Marilyn McCaffrey	*Richard McElvain*	*Donelle Ruwe*
Thomas Murray	*Kelly Morgan*	*Doris Schmidt*
Nancy Yee	*Robert Tapply*	

Description of the Program

Through a variety of specialized programs, English majors can obtain a BA English-Literature, BA English-Professional Writing, BA English-Provisional Certification, BA English-Theater, and BS English-Literature, BS English-Provisional Certification, and BA English-Theater.

Objectives for the Program in English

The English program offers students a) knowledge of the broad field of literature in English, b) in-depth knowledge of its diverse aspects, c) the reading, writing, and research tools for exploring the field and its boundaries, and d) ample opportunity for hands-on experience in related fields.

Requirements for the Major in English

Approaches to English Studies (ENGL 1999) provides an introduction to the discipline. All English majors and minors must satisfactorily complete the course by the end of their sophomore year. Transfer students must take ENGL 1999 during their first year at the college, unless exempted by the Department Chair, based on evaluation of transfer course work. English majors in all tracks must also successfully complete a Senior Portfolio. See individual tracks for specific requirements in addition to the above.

Internship

The English Department, through its internship program, offers an opportunity for seniors and second-semester juniors to explore a profession for one full semester of work and credit. The internship enables students to apply theoretical knowledge and laboratory-developed skills in an actual professional setting. Students in the program have enjoyed an unusually high level of job-entry success.

English majors can experience a wide range of professional activity in fields such as radio, television, journalism, personnel work, library functions (school, public, or technical), public relations, law, government, human services, and technical productions. New internship positions are identified each semester. Department approval is required.

Specializations for the Major in English

The Bachelor of Arts in English—Literature

This program requires 36 hours in English.

- A course in speech or performance fulfills the speaking and listening requirements
- Second-year language proficiency is required
- Students keep a portfolio of 10 representative English papers for Senior review
- This program also provides preparation for Provisional Certification for Teaching Secondary School English

Required Courses

ENGL 1999 Approaches to English Studies
ENGL 2000 American Literature I
ENGL 2100 American Literature II **or**
One post-Civil War American literature course

One equivalent period course in English literature may be substituted for one survey among the following requirements:

Required
ENGL 2200 English Literature I

Or choose one of the following:
ENGL 3030 The Middle Ages
ENGL 4010 Chaucer and His World

Required
ENGL 2210 English Literature II

Or choose one of the following:
ENGL 4040 Major English Writers of the 17th Century
ENGL 4050 The Novel in the 18th Century
ENGL 4060 The Age of Satire: 1700–1750
ENGL 4070 From Classic to Romantic: 1750–1800
ENGL 4080 Romanticism

Required
ENGL 2220 English Literature III

Or choose one of the following:
ENGL 3040 British Literature Since World War II
ENGL 4090 The 19th-Century English Novel
ENGL 4095 The Age of Dickens
ENGL 4100 Victorian Literature
ENGL 4115 British Modernism

Required
ENGL 4020 Shakespeare's Drama **or**
ENGL 4030 Shakespeare's Thought
ENGL 4400 Seminar (for juniors or seniors)

Electives

One elective in World or Multicultural literature and three electives in literature; at least one 4000-level literature course in addition to Shakespeare; and one 3000-level literature course.

Bachelor of Science Degree in English-Literature

This program is available for students who choose not to fulfill the requirement for foreign language proficiency at the second-year level. All other requirements are the same as for the Bachelor of Arts in English-Literature.

Bachelor of Arts in English-Professional Writing

This program requires 36 hours in English.

- A course in speech is required
- Students also keep a portfolio of ten representative course papers for Senior review

Required Courses

ENGL 1999 Approaches to English Studies
ENGL 2000 American Literature I
ENGL 2100 American Literature II **or**
One post-Civil War American literature course

Equivalent period courses in English Literature may be substituted for two surveys among the following requirements:

Required
ENGL 2200 English Literature I

Or choose one of the following:
ENGL 3030 The Middle Ages
ENGL 4010 Chaucer and His World
ENGL 4020 Shakespeare's Drama
ENGL 4030 Shakespeare's Thought

Required
ENGL 2210 English Literature II

Or choose one of the following:
ENGL 4040 Major English Writers of the 17th Century
ENGL 4050 The Novel in the 18th Century
ENGL 4060 The Age of Satire: 1700–1750
ENGL 4070 From Classic to Romantic: 1750–1800
ENGL 4080 Romanticism

Required
ENGL 2220 English Literature III

Or choose one of the following:
ENGL 3040 British Literature Since World War II
ENGL 4090 The 19th-Century English Novel
ENGL 4095 The Age of Dickens
ENGL 4100 Victorian Literature
ENGL 4115 British Modernism

Electives

One elective in ***World*** *or* ***Multicultural*** *literature; at least one 4000-level literature course and one 3000-level literature course*

Required
ENGL 2800 Journalism
ENGL 3890 Advanced Expository Writing

Nine hours from the following courses:
ENGL 3810 Journalism Practicum I
ENGL 3800 Creative Writing
ENGL 2810 Editing and Publishing
ENGL 3860 Writing for Business and Technology
ENGL 3870 Feature and Magazine Writing
ENGL 4260 Journalist to Novelist

Recommended
**ENGL 4940 Internship*
**ENGL 4950 Internship*
**ENGL 4960 Internship*

** One of the following Internships is recommended and requires Department approval.*

Bachelor of Arts in English—Theater

This program requires 33 hours of coursework.

- SPCH 2400 Voice and Articulation is required to fulfill the AS&S speaking and listening requirement
- Second-year language proficiency is also required
- Students keep a portfolio of 10 representative English papers for Senior review

Required Courses

ENGL	*1999*	*Approaches to English Studies*
ENGL	*2000*	*American Literature I*
ENGL	*2100*	*American Literature II* **or**
ENGL	*2210*	*English Literature II*
ENGL	*3010*	*American Drama*
ENGL	*4020*	*Shakespeare's Drama* **or**
ENGL	*4030*	*Shakespeare's Thought*
ENGL	*2210*	*English Literature II* **or**
ENGL	*3020*	*Modern Drama*
THEA	*2000*	*Introduction to Theater*
THEA	*2700*	*Acting I*
THEA	*2800*	*Acting II*
THEA	*4000*	*Directing the Play*

Recommended

**THEA*	*4940*	*Internship*
**THEA*	*4950*	*Internship*
**THEA*	*4960*	*Internship*

**One of these Internships is recommended and requires Department approval.*

Electives

Students are encouraged to explore such related courses as:

ENGL	*4130*	*20th-Century Irish Drama and Poetry*
THEA	*2100*	*Children's Theater*
THEA	*2500*	*Mime and Movement*
THEA	*3000*	*Stagecraft and Theater Production*
PHED	*4050*	*Art of Dance*
PHED	*4130*	*Making Dances: Choreography and Composition*
SPCH	*2400*	*Voice and Articulation*

Bachelor of Science in English–Theater

This program is available for students who choose not to fulfill the requirement for foreign language proficiency at the second-year level. All other requirements are the same as for the Bachelor of Arts in English-Theater.

Requirements for Provisional Certification for Teaching English

All students must be **formally admitted** to the teacher preparation program in English. A student's advisor initiates this process, the First Stage Review, when the student has completed 44 credits.

Formal admission requires all of the following:

- Minimum cumulative gpa of 2.5.
- Enrollment in or completion of the appropriate introductory professional course.
- Positive recommendation from the faculty in the student's teacher preparation program.

The First Stage Review also asks a student whether he or she has been convicted of a felony, as defined by the courts of any state (which makes a student ineligible for a teacher preparation program) and requires him or her to sign-off on a list of requirements to be completed prior to student teaching.

A student denied formal admission to a teacher preparation program can appeal to the appropriate department chair.

Admission to the Practicum (Student Teaching)

To participate in the Practicum of their teacher preparation program, students must successfully undergo a Second Stage Review, which requires them to meet all of the following criteria:

- Minimum cumulative gpa of 2.75.
- Minimum 3.0 gpa in professional courses.
- Passing scores on the literacy sections (Reading and Writing) of the Massachusetts Educators Certification Test.
- Successful completion of the tuberculin (Mantoux) screening test.

Transfer students are required to have taken 12 semester hours from at least three different professors within their teacher preparation program prior to student teaching.

The Second Stage Review again asks a student whether he or she has been convicted of a felony, and requires him or her to sign-off on a list of requirements for admission to the Practicum.

Finally, the Second Stage Review requires a positive recommendation from the faculty in the student's teacher preparation program. This includes a review of the student's performance in coursework, the pre-practicum evaluations and the Personal Characteristics Checklist.

Students denied admission to the Practicum can appeal to the appropriate department chair.

Major–English

The course requirements are those for the Bachelor of Arts/ Literature or Bachelor of Science/Literature plus the following:

Required

ENGL	*2910*	*Literature for Young Adults*
ENGL	*4600*	*The Structure and Nature of Language*

Core Courses

PSY	*2230*	*Adolescent Psychology*
ENGL	*2860*	*Introduction to Secondary School Teaching*
ENGL	*4700*	*Teaching Writing in Secondary Schools*
ENGL	*4850*	*Special Methods in English*
ENGL	*4860*	*English Practicum in a Secondary School (300 hours)*

Double Majors

Students with double majors in English and Early Childhood, Elementary, Middle School, or Special Education are working toward a BS degree and are exempt from foreign language proficiency requirement.

Requirements for the Minor in English

The Minor in English has two tracks, each requiring 18 hours in English courses.

Track A: Concentration in Literature

ENGL 1999 Approaches to English Studies

Six hours of survey from:

ENGL 2000 American Literature I
ENGL 2100 American Literature II
ENGL 2200 English Literature I
ENGL 2210 English Literature II
ENGL 2220 English Literature III
ENGL 2400 World Literature I
ENGL 2500 World Literature II

Nine hours in literature electives—six must be at the 3000 level or above

Track B: Concentration in Professional Writing

ENGL 1999 Approaches to English Studies
ENGL 3890 Advanced Expository Writing

Six hours of survey from:

ENGL 2000 American Literature I
ENGL 2100 American Literature II
ENGL 2200 English Literature I
ENGL 2210 English Literature II
ENGL 2220 English Literature III
ENGL 2400 World Literature I
ENGL 2500 World Literature II

Six semester hours in advanced writing courses selected from:

ENGL 2800 Journalism
ENGL 2810 Editing and Publishing
ENGL 3800 Creative Writing
ENGL 3810 Journalism Practicum I
ENGL 3820 Journalism Practicum II
ENGL 3860 Writing for Business and Technology
ENGL 3870 Feature and Magazine Writing
ENGL 4260 Journalist to Novelist

Note: Credit is not given for both: ENGL 2000 and COMM 2000; ENGL 3870 and COMM 3870; ENGL 3860 and COMM 3860.

Environmental Science

Chairpersons

George Babich
Robert Gardula
Wanda Roguski

Objectives for the Program in Environmental Science

The Environmental Science track combines Biology and Chemistry coursework as well as several courses designed specifically to address important concepts and issues in Environmental Science.

Requirements for the BS in Biology/Environmental Science

BIOL 1800 General Biology I
BIOL 1900 General Biology II
CHEM 1300 General Chemistry I
CHEM 1400 General Chemistry II
PHYS 1300 General Physics I
PHYS 1400 General Physics II
BIOL 2300 Ecology
BIOL 2800 Genetics
BIOL 3250 Cell Biology
BIOL 3550 Developmental Biology
ENSC 1000 Introduction to Environmental Science
ENSC 2000 Field Techniques in Environmental Science I
ENSC 2001 Field Techniques in Environmental Science II
GEOG 2100 Geology
ENSC 3000 Elements of Physical Chemistry
GEOG 4600 Environmental Hydrology
ENSC 4100 Seminar in Environmental Science
ENSC 4950 Internship in Environmental Science

Exercise Science

Chairpersons
David Antaya
George Babich

Objectives for the Program in Exercise Science

The Exercise Science track combines Biology and Exercise and Sport Science coursework. The program is intended to serve students interested in pursuing careers in the Exercise and Sport Science Field.

Requirements for the BS in Biology/Exercise Science

All students in the Bachelor of Science in Biology/Exercise Science are offered a required core sequence of the following biology and physical education courses.

BIOL	*1800*	*General Biology I*
BIOL	*1200*	*Anatomy and Physiology I*
BIOL	*1300*	*Anatomy and Physiology II*
BIOL	*1650*	*Nutrition*
BIOL	*2800*	*Genetics*
BIOL	*3250*	*Cell Biology*
BIOL	*3450*	*Biochemistry*
BIOL	*3550*	*Departmental Biology*
PHED	*3070*	*Exercise Physiology I*
PHED	*4040*	*Motor Learning*
PHED	*4120*	*Biomechanics of Sport*
BIO/		
**PHED*	*4950*	*Internship*

**A 2.5 cumulative GPA is required for the internship.*

Required Courses in Related Sciences

CHEM	*1300*	*General Chemistry I*
CHEM	*1400*	*General Chemistry II*
CHEM	*2000*	*Organic Chemistry I*
CHEM	*2100*	*Organic Chemistry II*
PHYS	*1300*	*General Physics I*
PHYS	*1400*	*General Physics II*

Exercise and Sport Science

Chairperson
David Antaya

Professors	***Associate Professors***	***Assistant Professors***
Thomas Battinelli	*James Sheehan*	*Barbara Nole*
Caryl Sickul	*David Antaya*	*Lynne Champion*

Instructor
Jeff Godin

Objectives for the Exercise and Sport Science Program

The Exercise and Sport Science Program is designed to foster healthy and physically active student life-styles and to professionally prepare students in program concentrations related to their major areas of study.

- To provide a variety of courses in Exercise and Sport Science for students at FSC. The course offerings are divided into two sub-programs: Health and Fitness Education, and Professional Preparation.
- Health and Fitness Education is the required/elective academic base of the program. The goals are to provide opportunities for students to participate in activities aimed at the development of physical fitness and performance skills for present as well as future use. Course offerings generally cover instruction in the areas of health and wellness, and exercise and fitness. The goals of this sub-program are to increase student knowledge, and understanding, and competency in these related fields of study. A variety of physical education, recreation, and dance courses are offered.
- Professional Preparation is the career-oriented base of the program. The goals of this sub-program are to provide career alternatives to students related to their chosen fields of endeavor.

Health and Fitness Requirement

All students must satisfy a three hour credit requirement in Health and Fitness.* This requirement may be met by the successful completion of one of the following three group options. All of the group options are taught in a lecture/laboratory manner and include a physical activity component.

Option I—One course from Group I

Option II—Three courses from Group II

Option III—Two courses from Group II and one from Group III

** Nursing majors must satisfy a one-credit hour requirement which can be met by the successful completion of one course from Group II or Group III. (Exceptions: Consumer Health and Standard First Aid) Honors students must satisfy a two credit hour requirement. This may be met by the successful completion of Leadership in the Outdoors and Consumer Health.*

Requirements for the Interdisciplinary Majors

Biology/Exercise Science

Course Requirements

PHED	*3070*	*Exercise Physiology*
PHED	*4040*	*Motor Learning and Physical Performance*
PHED	*4120*	*Biomechanics of Sport*
BIOL	*4950*	*Internship*

Business Administration/Fitness Management

Course Requirements

BIOL	*1200*	*Anatomy and Physiology I*
BIOL	*1300*	*Anatomy and Physiology II*
BIOL	*1650*	*Nutrition*
PHED	*2090*	*First Aid/Adult CPR*
PHED	*3060*	*Exercise, Nutrition and Heart Disease*
PHED	*3070*	*Exercise Physiology*
PHED	*4030*	*Physical Education, Fitness and Sport: An Overview*
PHED	*4170*	*Exercise Testing and Prescription*
PHED	*4950*	*Internship*
PHED		*Physical Activity or Dance Elective*

Requirements for the Minor in Physical Education

Physical Education Concentration

Course Requirements

PHED	*3070*	*Exercise Physiology*
PHED	*3080*	*Scientific Foundations of Strength Training and Conditioning*
PHED	*4030*	*Physical Education, Fitness and Sport: An Overview*
PHED	*4040*	*Motor Learning and Physical Performance*

Note: Education (Elementary and Secondary) and Human Services Majors in Human Services may substitute Recreational Leadership (PHED 4010) and Camp Counseling (PHED 4020) in place of Motor Learning and Physical Performance and Scientific Foundations of Strength Training and Conditioning.

Dance Minor

Theory/History/Performance

Select three courses:

PHED	*4050*	*Art of Dance*
PHED	*4070*	*Introduction to Dance Movement Therapy*
PHED	*4100*	*Movement Education*
PHED	*4130*	*Making Dances: Choreography and Composition*
PHED	*4900*	*Independent Study/Practicum*

Technique Courses

Select three courses:

PHED	*1130*	*Dance Aerobics*
PHED	*1210*	*Modern Jazz I*
PHED	*1220*	*Modern Jazz II*
PHED	*1230*	*Modern Jazz III*
PHED	*1240*	*Yoga*
PHED	*1310*	*African Jazz Dance*

Recommended Elective

The additional three credits can be taken from any of the above courses or the following:

THEA	*2100*	*Children's Theatre*
THEA	*2500*	*Stage Movement*
THEA	*3000*	*Stagecraft and the Theatre Production*

Human Services/Recreation Concentration

Recreation Course Requirements

PHED	*4010*	*Recreational Leadership*
PHED	*4060*	*Outdoor Education*
PHED	*4110*	*Programs in Recreation*
PHED		*Recreational Management*

Physical Activity Course Requirements

PHED	*1130*	*Dance Aerobics*
PHED	*1150*	*Canoeing*
PHED	*1170*	*Introduction to Mountain Hiking*
PHED	*1180*	*Backpacking*
PHED	*1200*	*Cross-Country Skiing*
PHED	*1210*	*Modern Jazz*
PHED	*1250*	*Bicycle Touring*
PHED	*1280*	*Orienteering*
PHED	*1300*	*Recreational Sports*

French

Chairperson
Jane Fiske

Professor
Jeanne Moore

Instructor
Jeffrey Eastman

Objectives for the Program in French

The French Program offers students the opportunity to begin the study of the French language and culture or to continue study at an intermediate or advanced level.

Requirements for the Minor in French

The minor in French requires a minimum of 15 semester hours including the following:

Required Courses

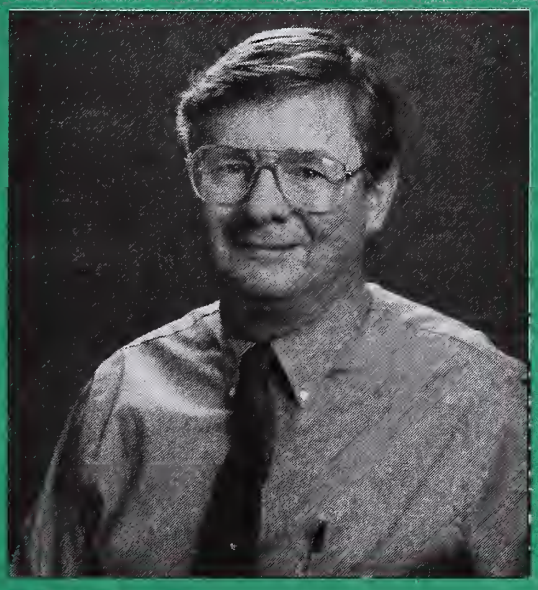
FREN 2000 Intermediate French I
FREN 2100 Intermediate French II

Electives

Choose at least three of the following:

FREN 3000 French Civilization
FREN 3300 French Literature I
FREN 3400 French Literature II
FREN 3500 French Conversation and Composition
FREN 4903 Independent Study

PROFILE



Robert Champlin

Professor and Graduate Program Chair, Geo/Physical Sciences, Full-time Day Faculty

Robert Champlin has taught at Fitchburg State for 27 years. A recipient of the Vincent J. Mara Award for Excellence in College Teaching, he holds an undergraduate degree in earth science from Bridgewater State College; a master's in education from Boston University; and a PhD in geology and science education from Ohio State University. In addition to teaching a full load of classes, he directs the undergraduate teacher education program in earth science and teaches academic courses in geology. Each year, as a volunteer and on his own time, he leads students on field trips to various parts of the United States, Canada and Mexico. This year's adventures include a dinosaur dig in Mexico and a May trip to Colorado and Utah. Bob senses that today's students seem more focused on earning a degree, than on education. "Nothing replaces hard work and persistence," he admonishes. "If you work on the education part, the degree will follow." He says the most rewarding aspect of his career is the gratitude—and success—of the students he teaches.

Geo/Physical Sciences

Chairperson
Robert J. Gardula

Professors	***Associate Professor***	***Assistant Professor***
James P. Barbato	*Lawrence R. Guth*	*Jiang Yu*
Robert F. Champlin		
Ali Errishi		
Robert J. Gardula		
Esmail Valanejad		

Objectives for the Program in Geo/Physical Sciences

The Geo/Physical Sciences department encompasses the disciplines of Earth Science, Geography, and Physics. A major track of study may be chosen in Earth Science or Geography. In both fields, successful students pursue courses on instruction and are supported in undertaking internship experiences which prepare them for entry into the job market or for acceptance to graduate school. Both fields also offer a minor. In addition, all three disciplines which make up the Geo/Physical Sciences offer courses which satisfy various requirements of the Liberal Arts and Sciences Program, as well as those of majors in other departments.

Requirements for the Major in Geography/Earth Science

The degrees of Bachelor of Science and Bachelor of Arts in Geography or Earth Science each require a minimum of 36 semester hours of coursework.

Core Requirements

GEOG	*1000*	*Introduction to Geography*
GEOG	*2100*	*Geology*
GEOG	*2800*	*Map Use and Interpretation*

Geography Majors

Additional Requirements

GEOG	*2400*	*Computer Applications in Geography/Earth Science*
GEOG	*3400*	*Population Geography*
GEOG	*3500*	*Geographic Information Systems*
GEOG	*4800*	*Cartography I*
GEOG	*4820*	*Cartography II*

A course in regional geography as well as additional courses are chosen in consultation with the academic advisor.

Earth Science Majors

Additional Requirements

GEOG	*2200*	*Meteorology*
GEOG	*2500*	*Oceanography*
GEOG	*3250*	*Historical Geology*
GEOG	*4200*	*Geomorphology*
GEOG	*4220*	*Structural Geology*
GEOG	*4500*	*Remote Sensing of the Environment*
GEOG	*4600*	*Environmental Hydrogeology*
PHYS	*1030*	*Astronomy*
BIOL	*2300*	*Ecology*

Required cognate courses for Earth Science majors (to be taken as part of Liberal Arts and Sciences distribution and free electives):
CHEM 1300 General Chemistry I
CHEM 1400 General Chemistry II
PHYS 1300 General Physics I **or**
PHYS 1400 General Physics II

- 6 semester hours Mathematics
- 3 semester hours Computer Science

**Those students interested in graduate school should give strong consideration to summer field camp.*

Requirements for Provisional Certification for Teaching Earth Science

All students must be **formally admitted** to the Earth Science program. A student's advisor initiates this process, the First Stage Review, when the student has completed 44 credits.

Formal admission requires all of the following:

- Minimum cumulative gpa of 2.5.
- Enrollment in or completion of the appropriate introductory professional course.
- Positive recommendation from the faculty in the student's teacher preparation program.

The First Stage Review also asks a student whether he or she has been convicted of a felony, as defined by the courts of any state (which makes a student ineligible for a teacher preparation program) and requires him or her to sign-off on a list of requirements to be completed prior to student teaching.

A student denied formal admission to a teacher preparation program can appeal to the appropriate department chair.

Admission to the Practicum (Student Teaching)

To participate in the Practicum of their teacher preparation program, students must successfully undergo a Second Stage Review, which requires them to meet all of the following criteria:

- Minimum cumulative gpa of 2.75.
- Minimum 3.0 gpa in professional courses.
- Passing scores on the literacy sections (Reading and Writing) of the Massachusetts Educators Certification Test.
- Successful completion of the tuberculin (Mantoux) screening test.

Transfer students are required to have taken 12 semester hours from at least three different professors within their teacher preparation program prior to student teaching.

The Second Stage Review again asks a student whether he or she has been convicted of a felony, and requires him or her to sign-off on a list of requirements for admission to the Practicum.

Finally, the Second Stage Review requires a positive recommendation from the faculty in the student's teacher preparation program. This includes a review of the student's performance in coursework, the pre-practicum evaluations and the Personal Characteristics Checklist.

Students denied admission to the Practicum can appeal to the appropriate department chair.

Major—Earth Science

Core Courses

PSY	*2230*	*Adolescent Psychology*
GEOG	*2860*	*Introduction to Secondary School Teaching*
ENGL	*4700*	*Teaching Writing in Secondary Schools*
GEOG	*4850*	*Special Methods in Earth Science*
GEOG	*4860*	*Earth Science Practicum in a Secondary School I (300 hrs.)*
GEOG	*4870*	*Earth Science Practicum in a Secondary School II (300 hrs.)*

Requirements for the Minor in Geography/Earth Science

The Minor in Geography/Earth Science consists of GEOG 1000, Introduction to Geography, and five additional geography courses chosen in consultation with one of the geography/earth science faculty.

German

Chairperson

Jane Fiske

Professors

Jeanne Moore

Objectives for the Program in German

The German program offers students the opportunity to begin the study of German language and culture. Intermediate and advanced work is available through independent study.

Requirements for the Minor in German

The minor in German requires a minimum of 15 semester hours, including the following:

Required Courses

GER	*2000*	*Intermediate German I*
GER	*2100*	*Intermediate German II*

Electives

Choose at least three of the following:

GER	*2800*	*Modern German Literature in Translation*
GER	*2900*	*Modern German Culture: the to Hitler*
GER	*3500*	*German Conversation and Composition*
GER	*4903*	*Independent Study*

Graphics

Chairpersons
Stanley Bucholc
Nadimpalli Mahadev
Wayne Munson

Requirements for the Minor in Graphics

The Interdisciplinary Graphics Minor develops an appreciation for all three areas of study while concentrating in one of the areas. Students gain a theoretical background in Computer Science, a design/applications background in Communications/Media, and a production background in Industrial Technology.

Required Courses

CSC 1000 Introduction to Programming **or**
CSC 1500 Computer Science I
COMM 3810 Graphic Design I
ITEC 1500 Graphic Arts Processes **or**
COMM 3910 Graphic Arts Production
CSC/COMM/ITEC Interdisciplinary Graphics Seminar

A concentration (two courses) in one of the following areas:

Concentration in Computer Science
CSC 1550 Computer Science II
CSC 2000 Computer Graphics for Nonmajors

Concentration in Communications/Media
COMM 3890 Computer Graphic Design
COMM 3820 Graphic Design II

Concentration in Industrial Technology
ITEC 2410 Computer Aided Drafting (CAD)
ITEC 2500 Offset Lithography **or**
ITEC 3530 Typography I

Note: Students must select a concentration in a department outside their major field of study.

History

Chairperson
Michael Turk

Professors	***Associate Professors***	***Assistant Professors***
Pasquale Micciche	*Ralph Coffman*	*Sibyl Brownlee*
Edmund Thomas	*Benjamin Lieberman*	*Rene Reeves*
	John Paul	*Teresa Thomas*
		Susan Williams

Objectives for the Program in History

The History Program offers a variety of courses to all students providing a strong foundation in World and United States history. A major and minor in history, as well as provisional certification for teaching history are provided.

Requirements for the Major in History

The Bachelor of Science and Bachelor of Arts in History requires 36 hours of course work. All BA and BS candidates must have a concentration (15 semester hours) in a subject area outside of history. The concentration is constructed with the approval of the student's departmental advisor. Recognized minors in other disciplines may be substituted for the concentration.

Required Courses

HIST 1000 World Civilizations I
HIST 1100 World Civilizations II
HIST 1150 World Civilizations III
HIST 1400 U.S. History I
HIST 1500 U.S. History II
HIST 4000 Writing History

- One upper-level elective from each of the following areas: European History, U.S. History, Non-Western (Asia, Africa, or Latin America)
- Nine semester hours of History electives
- The Bachelor of Arts also requires foreign language proficiency at the intermediate level

Requirements for Provisional Certification for Teaching History

All students enrolled must be **formally admitted** to the History teacher preparation program. A student's advisor initiates this process, the First Stage Review, when the student has completed 44 credits.

Formal admission requires all of the following:

- Minimum cumulative gpa of 2.5.
- Enrollment in or completion of the appropriate introductory professional course.
- Positive recommendation from the faculty in the student's teacher preparation program.

The First Stage Review also asks a student whether he or she has been convicted of a felony, as defined by the courts of any state (which makes a student ineligible for a teacher preparation program) and requires him or her to sign-off on a list of requirements to be completed prior to student teaching.

A student denied formal admission to a teacher preparation program can appeal to the appropriate department chair.

Admission to the Practicum (Student Teaching)

To participate in the Practicum of their teacher preparation program, students must successfully undergo a Second Stage Review, which requires them to meet all of the following criteria:

- Minimum cumulative gpa of 2.75.
- Minimum 3.0 gpa in professional courses.
- Passing scores on the literacy sections (Reading and Writing) of the Massachusetts Educators Certification Test.
- Successful completion of the tuberculin (Mantoux) screening test.

Transfer students are required to have taken 12 semester hours from at least three different professors within their teacher preparation program prior to student teaching.

The Second Stage Review again asks a student whether he or she has been convicted of a felony, and requires him or her to sign-off on a list of requirements for admission to the Practicum.

Finally, the Second Stage Review requires a positive recommendation from the faculty in the student's teacher preparation program. This includes a review of the student's performance in coursework, the pre-practicum evaluations and the Personal Characteristics Checklist.

Students denied admission to the Practicum can appeal to the appropriate department chair.

Major—History

Core Courses

PSY	*2230*	*Adolescent Psychology*
HIST	*2860*	*Introduction to Secondary/School Teaching*
SPED	*3800*	*Secondary Program in Adolescent Special Needs*
ENGL	*4700*	*Teaching Writing in Secondary Schools*
HIST	*4850*	*Special Methods in History*
**HIST*	*4860*	*History Practicum in a Secondary School (300 hrs.)*
**HIST*	*4870*	*History Practicum in a Secondary School (300 hrs.)*

**Students are responsible for their own transportation to and from prepracticum as well as practicum sites.*

Requirements for the Minor in History

The minor in History consists of 18 semester hours with at least three courses at the 2000-level or above.

PROFILE

Sibyl Brownlee

Assistant Professor, History

Full-time Day Faculty

Sibyl believes American history is rich in multi-culturalism. She enjoys social studies, particularly the history of different ethnic groups. In addition to teaching, Sibyl is part of Fitchburg State's African American Studies minor committee, which is planning its third annual civil-rights conference. She also is working under a grant from the Massachusetts Board of Higher Education to improve programs for students who want to teach high school. Off campus, Sibyl serves on the school council at Fitchburg High School, and is on the board at of ARC of North Central Massachusetts, an organization for people with developmental disabilities. She is a graduate of California State University at Los Angeles, where she earned a bachelor's and a master's degree in American Studies, and she holds a PhD in history from UMass Amherst. Sibyl urges students to become more aware of what's going on around them. "Get involved in your communities and participate in the political process," she advises. "That way, you can shape your own future, rather than leaving it to someone else."

Human Services

Chairperson
John Hancock

Coordinator
Robert J. Wellman

Professors
Cynthia Crosson
David C. Maloney
Richard J. Spencer

Associate Professors
John M. Hancock
Robert J. Wellman

Assistant Professor
Lynne Kellner

Objectives for the Human Services Program

A major in Human Services leads to a Bachelor of Science degree. Administered by the Department of Behavioral Sciences in cooperation with various other college departments and areas, this interdisciplinary major allows students to develop the broad background and skills necessary for working with people. The student is prepared to work in a variety of settings in the helping professions at entry level positions, and for graduate study.

Description of the Major in Human Services

The Human Services Program is competency based. The college provides the theoretical and conceptual bases and facilitates the development of generic helping skills. Students further develop and demonstrate their knowledge and skills within community settings.

Among the special characteristics of Fitchburg State's program is the coordination of supervised work experiences with academic studies. This experience involves working in organizations under professional supervision while fulfilling Human Service course work at the college.

The work experiences, which take the form of both course-related practice and an intensive field work assignment, strengthen a student's position for then pursuing a career. Further, they give the student a realistic basis for choosing a career, and potential employers an opportunity to screen students based on job performance. Students are also encouraged to gain additional experiences through volunteer activities.

The Human Services Program trains generalists to work with diverse clients in many settings. Course work may be designed for students to pursue interests in:

- Administration
- Aging and Gerontology
- Criminal Justice*
- Family and Children's Services
- Juvenile Justice
- Mental Health

** An interdisciplinary Track in Criminal Justice is available for students wishing to specialize in law enforcement, corrections, and related areas. (see pages 82-83 for details)*

Students should meet with their Human Services advisors to learn about the recommended course work and the career possibilities associated with their interests.

Policies for the Major

Admission and Retention Policy

A student may enter the Human Services major by either declaring it as a major upon admission to the college or as an internal transfer (transferring into the Human Services major from another major within this college). All students are subject to retention reviews by the Human Services Review Committee. Retention is based upon both academic performance and suitability for the field. (See Index for Academic Standards Policy.)

Policy Concerning the Human Services Major and Advisor Meetings

Failure to attend departmental meetings called for Behavioral Science majors and/or failure to contact advisors may be grounds for a student's name to be dropped from the roster of those listed in the major.

Requirements for the Major in Human Services

Program Structure

There are four components to the major:

A. The Human Services Core

These courses are required for all majors, and include Liberal Arts and Sciences courses:

PSY	*1100*	*General Psychology**
SOC	*1100*	*Introduction to Sociology**
HMSV	*1100*	*Theory, Issues, and Practice in Human Services*
PSY	*2200*	*Human Growth and Development***
PSY	*2350*	*Abnormal Psychology**
HMSV	*2500*	*Interviewing Techniques*
HMSV	*2900*	*Social Group Work*
HMSV	*3800*	*Methods of Case Recording and Analysis*
HMSV	*4870*	*Field Work in Human Services*
HMSV	*4880*	*Field Work in Human Services*
HMSV	*4890*	*Field Work in Human Services*

** These courses meet Liberal Arts and Sciences requirements in the Behavior (B) area or LA&S electives.*

Field Work in Human Services

Listed below are two options for Field Work. Since some agencies only accept one or the other option for placements, it is essential for a student to plan well in advance in order to know if placement begins in the fall or spring, as well as to complete all prerequisites to Field Work at least one semester prior to placement.

- Block Placement: 12 credits, involving 30 hours weekly for one semester (fall or spring)
- 15 hours weekly for two semesters (6 credits each) beginning in the fall and continuing until the end of the spring semester

Admission into the Human Services Program does not guarantee entry into Field Work. Eligibility for Field Work is assessed by the Human Services Review Committee according to the criteria established in Academic Policies and Procedures section.

B. Human Services/Behavioral Sciences Area

A minimum of 9 credits in Behavioral Sciences (Criminal Justice, Human Services, Psychology, and Sociology), *at least 6 of which (two courses) must be in Human Services*. For the purpose of this requirement, the Criminal Justice courses; Introduction to Criminal Justice, Juvenile Justice, and Community Based Corrections will be considered Human Services electives. These Behavioral Sciences electives must be approved by the students Human Service advisor. Notation to that effect must be placed in the student's folder.

*** With the documented approval of their Human Services advisor, students may substitute three courses in developmental psychology in place of Human Growth and Development. These courses* ***must include*** *PSY 2210 (Child Psychology) and PSY 2230 (Adolescent Psychology),* ***plus either*** *PSY 2240 (Adult Development) or PSY 2260 (Gerontology).*

*C. Related Courses**

Students must take 9 credits in courses other than Behavioral Sciences following these requirements:

- Courses must be related to the student's career goals and Field Work plans, and may be chosen from among all departments on campus except Behavioral Sciences.
- Courses must be approved by the student's Human Services advisor. Notation to that effect must be placed in the student's folder.

D. Government Knowledge Requirement

Graduates of the Human Services Program are required to demonstrate knowledge of Federal and State Government. Students may meet this requirement by:

- Successfully completing one of the following courses: State and Urban Government, U.S. Government, Civil Rights and Civil Liberties. Introduction to the Legal Process, United States History I, United States History II.

Exercise and Sport Science Specializations in Human Services

Students in Human Services may specialize in Dance, Recreation, or Dance/Recreation by:

- Selecting four 3-credit professional preparation courses
- Selecting four 1-credit physical activity courses under the guidance of the Physical Education Department

Voluntary Experiences

It is to the student's advantage to gain experiences in agencies beyond those required in courses. Wherever students work, they should obtain letters of recommendation for their placement folders. This aids students in course work at Fitchburg State College and also when applying for employment or to graduate school.

Policy Regarding Liability Insurance

Liability Insurance is required of all students taking Human Services courses which involve a practicum experience. Students have coverage under a blanket policy purchased by the college.

Industrial Technology

Chairperson
Stanley Bucholc

Professors	***Associate Professors***	***Assistant Professors***
Stanley Bucholc	*Edward Martens*	*James Andrews*
Robert Kokernak	*Sanjay Kaul*	*Edson Phelps*
Luther Tabor		*Steven Therrien*

Instructor
James Alicata

Objectives for the Program in Industrial Technology

The Industrial Technology Department is unique at Fitchburg State College in that it offers two major degree programs and seven concentrations, including:

- Bachelor of Science in Education, with a major in Technology Education (124 semester hours)
- Bachelor of Science in Industrial Technology (120-126 semester hours), with concentrations in Construction Technology, Electronics Engineering Technology, Graphic Arts Technology, Manufacturing Engineering Technology, Architectural Technology, Energy Engineering Technology, or Technology Theater Arts.

Liberal Arts and Sciences Requirements

For students in the BS in Technology Education and the BS in Industrial Technology, all concentrations

ENGL	*1100*	*Writing I*
ENGL	*1200*	*Writing II*
CHEM	*1000*	*Industrial Chemistry*
ITEC	*1700*	*Evolution of Industrial Technology*
ITEC	*2700*	*Man Technology Society*
MATH	*1300*	*Pre-Calculus*
PHED	*1000*	*Health and Fitness*
PHYS	*1300*	*Physics I*
PHYS	*1400*	*Physics II*

Requirements for the Major in Technology Education (Grades 5-12)

The Technology Education Program prepares students for a teaching career. Successful completion of the 43 credit major enables the graduate to meet the provisional certification requirements of the Commonwealth of Massachusetts. In addition to the Education Major the program requires a major in the Liberal Arts or Sciences. Upon certification, the graduate is eligible to teach in the public schools (grades 5-12) in the common core cluster areas of:

- Communication
- Construction
- Manufacturing
- Power Energy and Transportation

Students complete two courses in each of the four clusters for a total of 24 semester hours. These required courses are designed to provide the individual with minimum technical competencies necessary to teach technology education at the public school level. Basic fundamental processes and safety techniques are presented. Lastly, the professional sequence (15 semester hours) provides the students with a combination of theoretical and practical experiences in educational pedagogy.

Criteria for Admission

All students enrolled must be **formally admitted** to the Technology Education teacher preparation program. A student's advisor initiates this process, the First Stage Review, when the student has completed 44 credits.

Formal admission requires all of the following:

- Minimum cumulative gpa of 2.5.
- Enrollment in or completion of the appropriate introductory professional course.
- Positive recommendation from the faculty in the student's teacher preparation program.

The First Stage Review also asks a student whether he or she has been convicted of a felony, as defined by the courts of any state (which makes a student ineligible for a teacher preparation program) and requires him or her to sign-off on a list of requirements to be completed prior to student teaching.

A student denied formal admission to a teacher preparation program can appeal to the appropriate department chair.

Admission to the Practicum (Student Teaching)

To participate in the Practicum of their teacher preparation program, students must successfully undergo a Second Stage Review, which requires them to meet all of the following criteria:

- Minimum cumulative gpa of 2.75.
- Minimum 3.0 gpa in Technology Education.
- Passing scores on the literacy sections (Reading and Writing) of the Massachusetts Educators Certification Test.
- Completion of a first aid course.
- Successful completion of the tuberculin (Mantoux) screening test.

Transfer students are required to have taken 12 semester hours from at least three different professors within their teacher preparation program prior to student teaching.

The Second Stage Review again asks a student whether he or she has been convicted of a felony, and requires him or her to sign-off on a list of requirements for admission to the Practicum.

Finally, the Second Stage Review requires a positive recommendation from the faculty in the student's teacher preparation program. This includes a review of the student's performance in coursework, the pre-practicum evaluations and the Personal Characteristics Checklist.

Students denied admission to the Practicum can appeal to the appropriate department chair.

The following courses must also be completed:

PSY	*1100*	*General Psychology*
PSY	*2230*	*Adolescent Psychology*
PHIL	*2000*	*Philosophy of Education*
SPCH	*1000*	*Introduction to Speech*

Provisional Track Common Technical Core (24 semester hours)

Manufacturing Cluster

ITEC	*1200*	*Metal Fabrication Systems*
ITEC	*1300*	*Wood Fabrication Systems*

Communications Cluster

ITEC	*1400*	*Technical Drawing*
ITEC	*1500*	*Graphic Arts Processes*

Construction Cluster

ITEC	*1320*	*Construction Systems II*
ITEC	*2400*	*Architectural Drawing*

Power Energy and Transportation

ITEC	*1600*	*Energy Systems I*
ITEC	*2600*	*Energy Systems II*

Professional Sequence (18 semester hours)

ITEC	*3800*	*Methods in Teaching Technology Education.*
ITEC	*3810*	*Curriculum Development in Technology Education*
ITEC	*4840*	*Prepracticum Seminar*
ITEC	*4860*	*Practicum in Technology Education*

Requirements for the Major in Industrial Technology

The concentrations offered in the Industrial Technology Program were developed with the intention of providing a pool of highly skilled technologists who can sustain the needs of industry within the Commonwealth as we approach the 21st century.

The concentrations include:

- Architectural Technology
- Construction Technology
- Electronics Engineering Technology
- Energy Engineering Technology
- Graphic Arts Technology
- Manufacturing Engineering Technology
- Technical Theater Arts

Required Core Courses (15-18 semester hours)

ITEC	*1000*	*Electric Systems and Circuits*
ITEC	*1100*	*Electronics I*
ITEC	*1200*	*Metal Fabrication Systems*
ITEC	*1300*	*Wood Fabrication Systems*
ITEC	*1310*	*Materials Testing*
ITEC	*1400*	*Technical Drawing*
ITEC	*1500*	*Graphic Arts Processes*
ITEC	*1600*	*Energy Systems I*
ITEC	*1700*	*Evolution of Industrial Technology*
ITEC	*1710*	*Technical Analysis*
ITEC	*1720*	*Computers in Industrial Technology*

In addition to required courses, students select concentration electives with the help of a department advisor to enhance their technical competence. Courses from the math/science curriculum are also required in each concentration.

Specializations for the Major in Industrial Technology

Architectural Technology Concentration

The Architectural Technology Concentration is designed to develop the technical, analytical, and artistic abilities required to perform the design and planning activities involved in architectural projects and architectural related areas. The planned course sequence introduces architecture from a sound base in academic studies which is followed by a comprehensive study of design and its applications. The program continues with a study of technical systems in architecture, and ends with the development of professional practices. The learning activities throughout the program simulate the tasks that architectural professionals encounter.

Liberal Arts Requirements

ART	*1650*	*3-D Design*
ART	*3300*	*History of Architecture*
ART	*3500*	*History of Modern Architecture*
MATH	*2300*	*Calculus*

Required courses (51 semester hours)

ITEC	*1320*	*Construction Systems I*
ITEC	*1450*	*Architectural Graphics*
ITEC	*2310*	*Construction Systems II*
ITEC	*2400*	*Architectural Drawing*
ITEC	*2410*	*CAD*
ITEC	*2450*	*Theory of Architecture*
ITEC	*2630*	*Power and Lighting*
ITEC	*3220*	*Product Modeling and Rendering*
ITEC	*3300*	*Estimating and Bidding*
ITEC	*3310*	*Mechanical and Plumbing Systems*
ITEC	*3340*	*Construction Systems III*
ITEC	*3410*	*Drafting Commercial Structures*
ITEC	*3430*	*Architectural Design I*
ITEC	*3460*	*Architectural Design II*
ITEC	*3930*	*Strength of Materials*
ITEC	*4350*	*Site Planning*
ITEC	*4470*	*Architectural Professional Practice*

Construction Technology Concentration

The Construction Technology Concentration provides students with information essential for managerial personnel in the construction industry. Students are exposed to a planned sequence of courses preparing them for on-site construction related activities. These include the coordination of workers, materials, subcontractors, and local, state, and federal regulatory agencies.

Required Courses (30 semester hours)

ITEC	*1320*	*Construction Systems I*
ITEC	*2310*	*Construction Systems II*
ITEC	*2400*	*Architectural Drawing*
ITEC	*2710*	*Statics*
ITEC	*3300*	*Estimating and Bidding*
ITEC	*3310*	*Mechanical and Plumbing Systems*
ITEC	*3320*	*Construction Supervision*
ITEC	*3340*	*Construction Systems III*
ITEC	*3410*	*Drafting Commercial Structures*
ITEC	*3930*	*Strength of Materials*
ITEC	*4310*	*Seminar in Construction*

An additional 12 semester hours of technical electives are required to complete the program.

Electronics Engineering Technology Concentration

The Electronics Engineering Concentration prepares students for positions in the challenging field of electronics by developing the theoretical and practical skills required for this discipline. The skills students need are acquired through a planned sequence of courses involving classroom work in conjunction with hands-on experience utilizing the most modern testing and measuring equipment.

Required Courses (30 semester hours)

ITEC	*2100*	*Electronics II*
ITEC	*2710*	*Statics*
ITEC	*2730*	*Automated Manufacturing and Robotics*
ITEC	*3100*	*Electronics III*
ITEC	*3110*	*Digital Electronics*
ITEC	*3120*	*Control Theory*
ITEC	*3910*	*Engineering Experimentation*
ITEC	*4100*	*Industrial Electronics*
ITEC	*4110*	*Electronic Communication Systems*
ITEC	*4120*	*Microprocessor-Based Control*

An additional 12 semester hours of technical electives are required to complete the concentration.

Energy Engineering Technology Concentration

The Energy Engineering Technology concentration enables students to develop expertise in the areas of power and energy utilization, conservation, auditing and energy engineering. Field and laboratory applications in the areas of electricity usage, heating, ventilation and air conditioning, solar energy, photovoltaic use wind generation, performance contracting and other areas are studied to understand energy utilization problems and solutions that can be applied in many industries. The concentration integrates formal classroom instruction with applied laboratory work, field practice and experience for a career in this discipline. The following technical courses (27 semester hours) are required in the concentration:

ITEC	*1600*	*Energy Systems I*
ITEC	*1650*	*Energy Resources and the Environment*
ITEC	*2600*	*Energy Systems II*
ITEC	*2630*	*Power and Lighting Systems*
ITEC	*3310*	*Mechanical Plumbing Systems*
ITEC	*3600*	*Energy Conservation Principles*
ITEC	*3650*	*Co-Generation and Waste Recovery System*
ITEC	*3910*	*Engineering Experimentation*
ITEC	*4600*	*Performance Contracting for Energy Systems*

An additional 15 semester hours of technical electives are required to complete the program.

Graphic Arts Technology Concentration

The Graphic Arts Concentration provides students with technical experience in the printing and publishing industry. Students learn up-to-date printing methods that insure high quality and appropriate expertise to coordinate the technical effects in a modern printing plant.

The following technical courses (24 semester hours) are among those required to develop within the student the skills necessary to function in the Graphics Industry:

ITEC	*1510*	*Typography*
ITEC	*1720*	*Computers in Industrial Technology*
ITEC	*2500*	*Offset Lithography*

ITEC	*2520*	*Graphic Design*
ITEC	*2550*	*Screen Printing*
ITEC	*3510*	*Production Printing*
ITEC	*3520*	*Printing Estimating and Production Control*
ITEC	*4520*	*Seminar in Graphic Arts*

An additional 24 semester hours of technical electives are required to complete the program.

Manufacturing Engineering Technology Concentration

The concentration is designed to develop both technical and analytical competencies required of entry-level positions within manufacturing engineering support. Students are trained to become resourceful, technically competent people who can interface between engineering and other personnel within the manufacturing environment.

The competencies are acquired through a sequence of courses involving laboratory experiments and additional course work within the Math/Science curriculum. This combination provides the student with the practical knowledge of manufacturing processes, the ability to apply these processes, and the ability to plan, coordinate, and implement aspects of production projects.

Required Courses (42 semester hours)

ITEC	*1200*	*Metal Fabrication*
ITEC	*1300*	*Wood Fabrication*
ITEC	*1310*	*Materials Testing*
ITEC	*2410*	*Computer Aided Drafting*
ITEC	*2710*	*Statics*
ITEC	*2730*	*Automated Manufacturing I*
ITEC	*2740*	*O.S.H.A.*
ITEC	*2750*	*Plastic Technology*
ITEC	*2900*	*Designing and Planning*
ITEC	*3700*	*Fluid Power Technology*
ITEC	*3710*	*Quality Control*
ITEC	*3730*	*Automated Manufacturing II*
ITEC	*3900*	*Production Planning and Control*
ITEC	*3910*	*Engineering Experimentation*
ITEC	*3930*	*Strength of Materials*

An additional 9 semester hours of technical electives are required to complete the program. One option in this area are courses in plastic technology.

Technical Theater Track

The Technical Theater track is designed to develop a general base of technical, analytical, managerial, and creative competencies aimed toward entry positions in fields of theatrical production. Students are trained to become resourceful, imaginative, and technically competent people who can integrate engineering and artistic techniques with theatrical situations. Students will acquire these competencies through lectures, laboratories, and actual stage productions. These learning activities, accompanied by those of other course selections, provide for a general knowledge of theater, and the ability to apply these skills to theatrical situations.

Electives and internships provide flexibility through which individuals can pursue areas of special interest. The following courses (36 S.H.) are required in the concentration:

Required Courses (36 semester hours)

ITEC	*2410*	*Computer Aided Drafting*
ITEC	*3900*	*Production Planning and Control*
TETA	*2100*	*Theatrical Design Skills*
TETA	*2300*	*Fundamentals of Stage Lighting Design*
TETA	*2400*	*Scene Design*
TETA	*2500*	*Costume Design*
TETA	*3300*	*Advanced Stage Lighting Design*
TETA	*3400*	*Advanced Scene Design*
TETA	*3500*	*Advanced Costume Design*
TETA	*3600*	*Stage Make Up*
TETA	*4100*	*Stage Management*
TETA	*4940*	*Theater Internship*

An additional 9 semester hours of approved electives are required to complete the program.

Internships

Senior status students in all concentrations are eligible to participate in the Internship Program. The Internship allows a student with an appropriate grade average to receive up to 12 academic credits for a one semester work experience.

The Minor in Industrial Technology

The minor in Industrial Technology offers a choice of five concentrations:

Manufacturing Technology

ITEC	*1310*	*Materials Testing*
ITEC	*2410*	*CAD*
ITEC	*2739*	*Automated Manufacturing I*
ITEC	*3730*	*Automated Manufacturing II*
		Two approved electives

Construction Technology

ITEC	*2310*	*Construction Systems*
ITEC	*2400*	*Architectural Drawing*
ITEC	*3300*	*Estimating and Bidding*
ITEC	*3320*	*Construction Supervision*
		Two approved electives

Electronics Engineering Technology

ITEC	*1100*	*Electronics I**
ITEC	*2100*	*Electronics II**
ITEC	*3100*	*Electronics III**
		Three approved electives

** Students with equivalent course may substitute technical elective.*

Graphics Arts Technology

ITEC	*1500*	*Graphics Arts Processes or*
ITEC	*2500*	*Offset Lithography*
ITEC	*2520*	*Graphic Design* **or**
ITEC	*3520*	*Printing Estimating and Production Coordination*
COMM	*3810*	*Graphic Design I*
		Two approved electives

Industrial Training

ITEC	*1720*	*Computers in Industrial Technology*
ITEC	*3800*	*Methods of Teaching Technology Education*
ITEC	*3810*	*Curriculum Development in Technology Education*
		Three approved electives

Prerequisites: Application and departmental approval; prerequisites may be waived based upon an individual's experience and background.

For the Interdisciplinary Graphics Minor, see Graphics.

Industrial/Organizational Psychology

Chairperson
John Hancock

Objectives for the Program in Industrial/Organizational Psychology

The Program in Industrial/Organizational Psychology will provide students with the skills required for successful employment in the fields of management, supervision, and human resources. The minor in Industrial/Organizational Psychology will be especially useful for business majors who want to pursue careers in human resources or staff management.

Requirements for the Minor in Industrial/Organizational Psychology

The minor in Industrial/Organizational Psychology will require a total of 19 semester hours and will include the following courses:

Required Courses

PSY	*1100*	*General Psychology*
PSY	*2110*	*Research Methods*
PSY	*2370*	*Interpersonal Effectiveness*
		Practicum in Industrial/Organizational Psychology (1 semester hour)

Electives

Choose three courses:

PSY	*2610*	*Organizational Psychology*
PSY	*2620*	*Work and the Individual*
PSY	*2630*	*Human Factors/Ergonomics*
PSY	*2640*	*Performance Appraisal and Development*
PSY	*2650*	*Personnel Psychology*

Interdisciplinary Studies (formerly General Studies)

Coordinator
Sandra Miller-Jacobs
George Bohrer

Objectives for the Program in Interdisciplinary Studies

The Bachelor of Science and Bachelor of Arts in Interdisciplinary Studies degrees provide for individually designed, interdisciplinary majors, which allow students to work with faculty advisors to develop a course of study that responds to individual educational and professional goals. Additional objectives are:

- To enable students to explore multidisciplinary areas and to integrate them in a coherent and meaningful way
- To provide the opportunity for broadly-based Liberal Arts and Sciences majors
- To provide the opportunity for majors that combine Liberal Arts and Sciences courses with professional courses
- To provide the opportunity, for a part-time, individually paced education, which allows students to build their academic confidence and integrate their studies more easily into their lives

Description of the Major in Interdisciplinary Studies

There are many possible combinations of course work available through this major, limited only by the breadth of courses offered through the day and evening divisions of the college. When creating a plan of study, a student must have a rationale for a thematic approach to their program.

Criteria for Admissions

There is a formal application procedure for students who choose to major in Interdisciplinary Studies. The purpose of the application is to:

- Set forth the student's academic and professional goals and demonstrate why they are best achieved through the Interdisciplinary Studies Program
- Require students to outline their proposed program
- Stipulate any required independent exercise or internship
- Provide college-level courses and grades

Deadlines—The form, together with a preliminary plan of study, should be received by the Interdisciplinary Studies Coordinator no later than October 15th for entrance into the program in the following spring semester and February 15th for entrance in the following summer or fall semester.

The Interdisciplinary Studies Coordinator along with the Interdisciplinary Studies Committee reviews the application with the student and, if approved, they finalize the plan of study. The student's advisor is chosen and is responsible for filing a copy of the student's program with the college Registrar. Any subsequent changes in the student's program must be approved by the student's Interdisciplinary Studies Committee.

Requirements for the Major in Interdisciplinary Studies

The Interdisciplinary Studies degree is normally awarded as a Bachelor of Science. A Bachelor of Arts is awarded if the student includes foreign language study through the second year of college-level work and concentrates his/her field of studies in the Liberal Arts and Sciences fields. Other requirements include:

- A rationale and a thematic organizing principle for each program
- A minimum of 36 semester hours of coursework for the major with a college-approved minor within one of the three fields
- A minimum of 9 semester hours in each of the other two fields
- A common core of three Liberal Arts and Sciences interdisciplinary courses:

IDIS 1800 Global Issues
MUSC 2000 Commonwealth of the Arts **or**
MUSC 2100 Commonwealth of the Ancient Arts
PHIL 1100 Logic **or**
PHIL 2600 Philosophy of Human Nature **or**
PHIL 3340 Contemporary Philosophy **or**
PHIL 4430 Marxism

- A senior-year "Capstone" course intended to help students to integrate the various fields of study. This may take the form of an independent study or an internship (3–15 semester hours)
- A minimum 30 semester hours of course work completed after the program of study is approved and filed with the registrar
- Students must be admitted to the major prior to their senior year

A student's program must meet the approval of their Interdisciplinary Studies advisor and advisors from each of the chosen fields of study.

Interdisciplinary Studies Major for Special Education Majors

Students in Special Education will be required to select Interdisciplinary Studies as their Liberal Arts and Sciences major. The three areas of Interdisciplinary Studies must be selected from the four Massachusetts Curriculum Frameworks listed below:

- Math
- Science
- English and Language Arts
- History/Social Science

Students will complete the capstone during student teaching. They will develop and implement an Integrated Thematic Unit connecting their 3 areas of study. The capstone will be approved by the Interdisciplinary Studies Chair and supervised by the faculty of the Special Education department and the cooperating practitioner from the school where the student is student teaching.

Interdisciplinary Studies (Humanities)*

Chairperson
Jane Fiske

Objectives for the Major

The Humanities Department offers a Interdisciplinary Studies major, which applies especially to students pursuing a degree in Elementary, Early Childhood, or Middle School Education. The major covers the new requirements for certification that specify a double major.

Criteria for Admissions

Students interested in such a major should contact one of the designated faculty of the Humanities Department who assists the student in the choice and the design of the major from the disciplines listed below.* The Humanities Department maintains the advising records, issues a progress report, and informs the registrar.

The advisor to students in the Elementary, Early Childhood, and Middle School Education Department meets with the student for advising purposes after the student has consulted with the Humanities Department.

Requirements for the BS in Interdisciplinary Studies

The following courses are recommended for the Humanities Program—Elementary, Early Childhood, and Middle School Education Majors.

Core LA&S Requirements for the BS in Interdisciplinary Studies

A common core of three Liberal Arts and Sciences interdisciplinary courses: IDIS 1800, Global Issues; MUSC 2000, Commonwealth of the Arts **or** MUSC 2100, Commonwealth of the Ancient Arts; and PHIL 1100, Logic **or** PHIL 2600, Philosophy of Human Nature **or** PHIL 3340 Contemporary Philosophy **or** PHIL 4430 Marxism.

Track I

Choose a minimum of 36 semester hours of coursework for the major with a college-approved minor in Art, Music, History, or Philosophy, a minimum of 9 credits in each of the other fields, and the Seminar in the Humanities.

A. Art

**ART 1150 Survey of Art Forms I*
ART 1160 Survey of Art Forms II* **or
**ART 1400 Drawing*
ART 1600 Design
ART 2200 Life Drawing
ART 2300 American Art
ART 1720 Contemporary Art
ART 2550 Art of the Renaissance **or**
any other upper-level art courses

B. Music

*MUSC	1000	*Art of Music*
MUSC	2000	*Commonwealth of the Arts*
*MUSC	2200	*Basic Music Theory*
MUSC	3100	*Symphony*
MUSC	3200	*Opera*
MUSC	3400	*20th-Century Music*
MUSC	3500	*American Music*
MUSC	4500	*Harmony* **or** *any other upper-level music courses*

** Humanities Track*

C. History

*HIST	1000	*World Civilizations I*
*HIST	1100	*World Civilizations II*
*HIST	1150	*World Civilizations III*
HIST	1400	*U.S. History I*
HIST	1500	*U.S. History II*
HIST	2000	*Medieval Europe*
HIST	2100	*20th-Century Europe*
HIST	2200	*British History*
HIST	2300	*History of African America*
HIST	2490	*Women in U.S. History to 1870* **or** *any other upper-level history courses*

D. Philosophy

*PHIL	1000	*Introduction to Western Philosophy*
PHIL	1100	*Logic*
PHIL	2000	*Philosophy of Education*
PHIL	2440	*American Philosophy*
PHIL	2600	*Philosophy of Human Nature*
PHIL	3310	*Ancient and Medieval Philosophy*
PHIL	4100	*Philosophy of Art* **or** *any other upper level philosophy courses*
IDIS	4000	*Seminar in the Humanities for 3 credits.*

Track II

A second option in the Interdisciplinary Studies (Humanities) major combines courses in Language, Literature, and History. Choose a minimum of 36 semester hours for the major with a college-approved minor in French, German, Russian, or Spanish; a minimum of 9 credits each in Literature and History and the Seminar in Humanities.

E1. French

FREN	2000	*Intermediate French I*
FREN	2100	*Intermediate French II*
FREN	3000	*French Civilization*
FREN	3300	*French Literature*
FREN	3500	*French Conversation and Composition*
FREN	5000	*Topics in French*

E2. German

GER	2000	*Intermediate German I*
GER	2100	*Intermediate German II*
GER	2800	*Modern German Literature*
GER	3500	*German Conversation and Composition*
GER	5000	*Topics in German*

E3. Spanish

SPAN	2000	*Intermediate Spanish I*
SPAN	2100	*Intermediate Spanish II*
SPAN	2600	*Hispanic Culture*
SPAN	2700	*Hispanic Literature*
SPAN	3500	*Spanish Conversation and Composition*
SPAN	5000	*Topics in Spanish*

The above language programs also require courses in literature.

Literature Requirements

Select 9 semester hours from the following courses:

ENGL	2000	*American Literature I*
ENGL	2100	*American Literature II*
ENGL	2400	*World Literature I*
ENGL	2500	*World Literature II*
ENGL	3300	*Women and Literature*

The above language programs also require Electives.

History

Select 9 semester hours of elective courses from the following:

PHIL	1000	*Introduction to Western Philosophy*
HIST	1000	*World Civilization I*
IDIS	1100	*Women in Latin America*
HIST	1100	*World Civilization II*
HIST	1150	*World Civilization III*
HIST	1400	*U.S. History I*
HIST	1500	*U.S. History II*
HIST	2000	*Medieval Europe*
HIST	2100	*20th-Century Europe*
HIST	2700	*History of Mexico, Central America, and the Caribbean*
HIST	2750	*History of South America*
HIST	3300	*Modern Russia*
HIST	3350	*20th Century Russia*
IDIS	4000	*Seminar in the Humanities for 3 credits.*

Track III

In a third option in the Interdisciplinary Studies (Humanities) major students choose a college-approved minor in Music, Art, Dance, or Theater. In addition, students will take 9 semester hours in two other fields, as approved by their advisor, and the Seminar in the Humanities.

Music

MUSC	1000	*Art of Music*
MUSC	2200	*Basic Music Theory* **or** *Upper-Level Music History class*
MUSC	4000	*Choral Arts** **or**
MUSC	4100	*Instrumental Arts* **or**
MUSC	4200	*Class Piano* **or**
MUSC	4300	*Class Voice*

**Three one-credit music studio courses.*

Art

ART	1100	*Art Appreciation*
ART	1150	*Survey of Art Forms I* **or**
ART	1160	*Survey of Art Forms II* **or** *Upper-Level Art History class*
ART	1400	*Drawing* **or**
ART	1450	*Introductory Painting* **or**
ART	1600	*Design* **or**
ART	1650	*Three-Dimensional Design* **or**
ART	1840	*Sculpture I* **or**
ART	2200	*Life Drawing* **or** *any other Upper-Level Studio Art class*

Dance

PHED	*4050*	*Art of Dance*
PHED	*4130*	*Making Dance: Choreography and Composition*
THEA	*2500*	*Stage Movement* **or**
PHED	*1210*	*Modern Jazz I* **or**
PHED	*1220*	*Modern Jazz II* **or**
PHED	*1230*	*Modern Jazz III* **or**
PHED	*1240*	*Yoga*
PHED	*1310*	*African Jazz Dance*

**Three one-credit dance studio courses.*

Literature/Theater

THEA	*2000*	*Introduction to Theater*
THEA	*2700*	*Acting I*
ENG	*3000*	*World Drama* **or**
ENG	*3020*	*Modern Drama* **or**
		any other Upper-Level Dramatic Literature class.
IDIS	*4000*	*Seminar in the Humanities for 3 credits.*

International Studies

Chairperson
Michael Turk

Objectives for the International Studies Program

The International Studies Program provides students in all majors with the opportunity to examine international historical and current issues to increase their global awareness and their abilities to interact with peoples from diverse cultures. A minor in International Studies is offered by the program. For more information, please contact the Social Science Department or the International Education Office.

Requirements for the Minor in International Studies

The minor in International Studies has several options. Students should consult an advisor to select the option best suited to their interests. A total of 18-credits is required for the minor.

Required

IDIS	*1200*	*Introduction to International Studies*

At least three courses in the minor must be at the 2000 level or above

At least one course must be selected in three of the following categories:

- History, Political Science and Anthropology
- Business and Economics
- Art, Music or Dance
- Language, Literature, Culture or Philosophy

A. History, Political Science and Anthropology

The following is a list of courses which can be used for the minor:

HIST	*1000*	*World Civilization I*
HIST	*1100*	*World Civilization II*
HIST	*1500*	*World Civilization III*
HIST	*2000*	*Medieval Europe*
HIST	*2100*	*Twentieth Century Europe*
HIST	*21500*	*Twentieth Century Germany*
HIST	*2160*	*Holocaust*
HIST	*2700*	*History of Mexico, Central America, and Caribbean*
HIST	*2800*	*Far East before 1800*
HIST	*2850*	*Modern Far East*
HIST	*2900*	*Middle East History to 1500*
HIST	*2920*	*Middle East History Since 1500*
HIST	*3200*	*History of India Since 1500*
HIST	*3300*	*Modern Russia*
HIST	*3350*	*Twentieth Century Russia*
HIST	*3450*	*Women in Europe History* **ENGL1100/1200; HIST1000* **or** *HIST1150* **or** *immediate European elective*
HIST	*3950*	*Contemporary Latin America*
IDIS	*1800*	*Global Issues*
POLS	*2200*	*Contemporary International Relations*
POLS	*2500*	*Political Systems of the Modern World*
SOC	*2250*	*Cultural Anthropology*

B. Business and Economics

The following is a list of courses which can be used for the minor:

BSAD	*4330*	*International Marketing* **BSAD3200, 3300, 3320, 3330, 3500, plus new course of Intro to Financial Accounting*
BSAD	*4350*	*International Business Management* **BSAD3200, 3300, 3400, 3500, plus new course of Intro to Financial Accounting*
ECON	*3550*	*International Economics* **ECON1000, 1200*
ECON	*2200*	*Comparative Economics Systems* **ECON1000*
ECON	*2500*	*Economic Development* **ECON1000*

C. Art, Music, or Dance

The following is a list of courses which can be used for the minor:

ART	*1000*	*Survey of Art Forms I*
ART	*1200*	*Survey of Art Forms II*
ART	*1300*	*The History of Architecture*
ART	*1810*	*Nineteenth Century Art*
ART	*1815*	*Early Twentieth Century Art*
MUSC	*2000*	*Commonwealth of the Arts*
MUSC	*3300*	*Twentieth Century Music*
MUSC	*3700*	*Nineteenth Century Music*
PHED	*40500*	*Art of Dance*

D. Language, Literature, Culture and Philosophy

The following is a list of courses which can be used for the minor:

FREN	*2000*	*Intermediate French I* **FREN1100 or permission*
FREN	*2100*	*Intermediate French II* **FREN2000 or permission*
GER	*2000*	*Intermediate German I* **GER1100 or permission*
GER	*2100*	*Intermediate German I* **GER2000 or permission*
SPAN	*2000*	*Intermediate Spanish I* **SPAN1000 or permission*
SPAN	*2100*	*Intermediate Spanish II* **SPAN2000 or permission*
EDUC	*2920*	*Caribbean Cultures*
ENGL	*2400*	*World Literature I*
ENGL	*2500*	*World Literature II*
ENGL	*2650*	*Other Voices*
ENGL	*3000*	*World Drama*
ENGL	*3100*	*The World Novel to 1914*
ENGL	*3110*	*The World Novel Since 1914*
FREN	*2600*	*French Civilization* **FREN2100 or permission*
FREN	*2700*	*French Literature I* **FREN2100 or permission*
FREN	*2800*	*French Literature II* **FREN2100 or permission*

Leadership Academy (Honors Program)

Coordinator: Dr. Stanley J. Bucholc

Objectives for the Leadership Academy

The Leadership Academy provides an enriched, stimulating set of courses for the best-prepared and most qualified students. Students will be admitted to the program in the freshman year or may apply to transfer into it in the sophomore or junior years. Students who complete the program do so in lieu of the Liberal Arts and Sciences requirements. Students who cannot or do not wish to finish the entire program may complete a Leadership minor; those students will also need to complete the LA&S requirements.

The goal of the Leadership Academy is to educate leaders for the 21st century. In order to accomplish this task, the program has established an integrated set of courses, which incorporate six themes (globalization, communication, computerization, science and technology, ethics and diversity) and are taught over a four-year sequence. Students must have a high level of proficiency in research, writing and computer skills; must be effective team members; and must be able to present their ideas in formal and informal settings. They are expected to apply their learning in both the college and the larger community through a series of extra curricular activities, volunteer positions and service learning, co-curricular activities. A GPA of 3.2 must be maintained to continue in the academy.

Criteria of Invitation to Leadership Academy

Freshmen students are invited to join the Leadership Academy based on their high school preparation, SAT scores, and documented evidence of leadership potential. Upperclassmen applications will also be considered based on GPA and evidence of leadership potential.

Curriculum for the Leadership Academy

The Leadership Academy curriculum creates a solid foundation of leadership knowledge and skills in the first year and builds on this base in each of the succeeding years. A minimum of 6-8 credits must be taken per semester.

First Year Curriculum

LEAD	*1000*	*Colloquium on Community*
LEAD	*1005*	*Foundations of Leadership I*
LEAD	*1010*	*Foundations of Leadership II*
LEAD	*1025*	*Service Learning Project*
LEAD	*1050*	*Honors English I*
LEAD	*1140*	*Leadership in the Outdoors*
**LEAD*	*1150*	*Changing World I (19th century)*
LEAD	*1200*	*Honors English II*
**LEAD*	*1250*	*Changing World II (20th century)*
LEAD	*2030*	*Consumer Health*

Second Year Curriculum

**LEAD*	*2000*	*Leaders in the Humanities I (19th Century)*
LEAD	*2001*	*Leaders in the Humanities I Colloquium*
**LEAD*	*2050*	*Leader in the Humanities II (20th Century)*
LEAD	*2051*	*Leader in the Humanities II Colloquium*

Third Year Curriculum

**LEAD*	*3000*	*Physics, Mathematics, and Technology*
**LEAD*	*3050*	*Biology, Mathematics, and Technology*
LEAD	*3051*	*Biology/Mathematics/Ethics Colloquium*

Fourth Year Curriculum

Senior Thesis/Project	
***Language Requirement*	*12 credits*

**All students in the Leadership Academy will also demonstrate proficiency in a foreign language at the intermediate level. This requirement can be met through examination or coursework.

*A student may take the Changing World, Leaders in the Humanities, or Physics/Mathematics/Technology-Biology/ Mathematics/Technology in years other than those specified. Colloquia that complement these courses should be taken concurrently.

Leadership Minor

Students who enter the program as sophomores or juniors, or students who choose to leave the program before completion, may elect to complete a Leadership Minor. A minimum of 6-8 credits must be taken per semester. The minor will consist of the following courses:

Required

LEAD 1005 Foundations of Leadership I	*3 credits*
LEAD 1010 Foundations of Leadership II	*3 credits*

Select **one or two** of the following year-long course sequences:

LEAD 1050 Honors English I **and**	
LEAD 1200 Honors English II	*6 credits*
LEAD 1150 Changing World I **and**	
LEAD 1250 Changing World II	*6 credits*
LEAD 2000 Leaders in the Humanities (19th century) **and**	
LEAD 2050 Leaders in the Humanities (20th century)	*6 credits*
LEAD 3000 Physics, Mathematics, and Technology **and**	
LEAD 3050 Biology, Mathematics, and Technology	*8 credits*
LEAD 4990 Senior Thesis/Project	*6 credits*

If only one of the above course groups is chosen, students will use the senior project as part of the minor(6). Students should consult with the Leadership Academy Director and their major advisors if they wish to use this option.

Two colloquia; 2 credits

These will be the colloquia which are taught concurrently with the courses the student has chosen as part of his/her minor:

LEAD	*1000*	*Our Many Communities*	*1 credit*
LEAD	*2001*	*Leaders in the Humanities I Colloquium*	*1 credit*
LEAD	*2051*	*Leader in the Humanities II Colloquium*	*1 credit*
LEAD	*3051*	*Biology/Mathematics/Ethics*	*1 credit*
LEAD	*1025*	*Service Learning Project*	*1 credit*
LEAD	*1140*	*Leadership in the Outdoors*	*1 credit*

Leadership Academy Club

All students in the Leadership Academy are also members of the Leadership Academy Club. The club is active in campus life and sponsors speakers and performers for the campus as well as trips to cultural sites and performances.

Mathematics

Chairperson

Gerald Higdon

Professors	***Associate Professors***	***Assistant Professors***
Richard Bisk	*Gerald Higdon*	*Robert Bentley*
Christine Cosgrove	*Claire McAndrew*	*Mark Snyder*
Lucy Dechene	*Abdulkeni Zekeria*	
Barry Light		

Instructor

Judith Salmon

Objectives for the Program in Mathematics

The Department of Mathematics serves all students at the college. Mathematics majors receive a comprehensive foundation in abstract and applied mathematics as preparation for graduate school or a professional career. Minors in Mathematics receive the mathematical foundation needed for advanced work in their major field.

The department also provides non-majors with courses for their major or with courses for their Liberal Arts and Sciences Program.

Requirements for the Major in Mathematics

The Bachelor of Science and the Bachelor of Arts in Mathematics is comprised of 42 credit hours of course work, including the following requirements:

MATH	*2300*	*Calculus I*
MATH	*2400*	*Calculus II*
MATH	*2500*	*Introduction to Mathematical Thought*
MATH	*2600*	*Linear Algebra*
MATH	*3300*	*Calculus III*
MATH	*3400*	*Calculus IV*
MATH	*4300*	*Abstract Algebra*
MATH	*3900*	*Mathematics Seminar*

At least 15 additional semester hours of advanced mathematics (3000 or 4000 level, nine of which must be at the 4000 level

One course in Computer Science at the level of CSC 1500 or higher

Note: MATH 4850, MATH 4860, and MATH 4870 are not advanced mathematics courses.

Graduate courses may be substituted for 4000 level courses. The Bachelor of Arts degree requires foreign language proficiency at the second year level.

Mathematics majors fulfill the Listening and Speaking requirements of the Liberal Arts and Sciences program by successfully completing one of the following three courses:

SPCH	*1000*	*Introduction to Speech Communication*
SPCH	*1100*	*Argumentation and Debate*
SPCH	*1200*	*Business and Career Communication*

Requirements for Provisional Certification for Teaching Mathematics

All students must be **formally admitted** to the Mathematics teacher preparation program. A student's advisor initiates this process, the First Stage Review, when the student has completed 44 credits.

Formal admission requires all of the following:

- Minimum cumulative gpa of 2.5.
- Enrollment in or completion of the appropriate introductory professional course.

- Positive recommendation from the faculty in the student's teacher preparation program.

The First Stage Review also asks a student whether he or she has been convicted of a felony, as defined by the courts of any state (which makes a student ineligible for a teacher preparation program) and requires him or her to sign-off on a list of requirements to be completed prior to student teaching.

A student denied formal admission to a teacher preparation program can appeal to the appropriate department chair.

Admission to the Practicum (Student Teaching)

To participate in the Practicum of their teacher preparation program, students must successfully undergo a Second Stage Review, which requires them to meet all of the following criteria:

- Minimum cumulative gpa of 2.75.
- Minimum 3.0 gpa in professional courses.
- Passing scores on the literacy sections (Reading and Writing) of the Massachusetts Educators Certification Test.
- Successful completion of the tuberculin (Mantoux) screening test.

Transfer students are required to have taken 12 semester hours from at least three different professors within their teacher preparation program prior to student teaching.

The Second Stage Review again asks a student whether he or she has been convicted of a felony, and requires him or her to sign-off on a list of requirements for admission to the Practicum.

Finally, the Second Stage Review requires a positive recommendation from the faculty in the student's teacher preparation program. This includes a review of the student's performance in coursework, the pre-practicum evaluations and the Personal Characteristics Checklist.

Students denied admission to the Practicum can appeal to the appropriate department chair.

Major—Mathematics

(42 total credits, including MATH 3000 and MATH 4200)

Core Courses

PSY	*2230*	*Adolescent Psychology*
MATH	*2860*	*Introduction to Secondary School Teaching*
ENGL	*4700*	*Teaching Writing in Secondary Schools*
MATH	*4850*	*Special Methods in Mathematics*
MATH	*4860*	*Mathematics Practicum in Secondary School (150 hrs.)*
MATH	*4870*	*Mathematics Practicum in Secondary School (150 hrs.)*

Requirements for the Minor in Mathematics

A minor in Mathematics is comprised of 23 semester hours:

- Eleven semester hours of Calculus I, II, and III
- Either Abstract or Linear Algebra
- Three elective courses chosen from Introduction to Mathematical Thought or any mathematics course at the 3000 or 4000 level. At least one of the three electives must be at the 4000 level.

PROFILE

Cheryl Kimball-St. Onge

Alumnus
Attorney

"Outstanding, dedicated, intelligent professors... the best education money can buy, for almost no money at all!" That's how Cheryl Kimball describes her years at Fitchburg State. When she started college in 1988, Cheryl had two small children and had been out of high school for eight years. After graduating with a degree in history and economics, she earned a juris doctor from Syracuse University School of Law and master of public administration from the Maxwell School of Citizenship and Public Affairs at Syracuse. Now she practices energy regulatory law with the Boston-based firm of Keegan, Werlin and Pabian, and says her job offers the perfect combination of law, public policy and economics. Best of all, she adds, her two daughters, now age 15 and 12, are very proud of their mom. "They know I worked very hard," she says, "and they saw me attain my goals. I think that lesson will stay with them."

Music

Chairperson
Jane Fiske

Associate Professors ***Assistant Professors***
Robin Dinda *James Leve*
Jane Fiske *Michele Caniato*

Objectives for the Program in Music

The Program in Music provides students with the opportunity to actively engage in music through instrumental or choral work. Courses are designed to fulfill the arts requirement in the Liberal Arts and Sciences Program and to study the history of music at different times across many cultures. A minor is also available.

Requirements for the Minor in Music

The minor in Music requires 18 semester hours of course work. Students must take the following:

MUSC 1000 Art of Music **or**
MUSC 2000 Commonwealth of the Arts
MUSC 2200 Basic Music Theory
MUSC 4500 Harmony I
MUSC 4000 Choral Arts **or**
MUSC 4100 Instrumental Arts (3 credits)

The remaining 6 semester hours may be taken from approved music electives.

Nursing

Chairperson
Sophia Harrell

Professors ***Associate Professors*** ***Assistant Professors***
Barbara Cammuso *Barbara May* *Joanne Chapman*
Sheila Fredette *Elizabeth May* *Robert Dumas*
Sophia Harrell *Linda McKay* *Janice Tangney*
A. Lynne Wagner *Tanya Ratney* *Barbara Powers*
Andrea Wallen *Ann Scannell*
Jean Worfolk *Elizabeth Shaw*
Richard Trifilo

Instructor ***Part-Time Instructors*** *Eleanor Turnbull*
Lorraine Carvalho *Jean Kressy*
Rachel Boersma *Gail Liston*
Patricia Duynster *Tara Mariolis*
Judith Mizhir

Objectives for the Program in Nursing

The degree offered is the Bachelor of Science with a major in nursing. The purpose of the program in nursing is to prepare practitioners of professional nursing who can assume responsibility for planning and providing health care to individuals, families, and groups in a variety of settings in collaboration with other professionals. The program also provides a solid foundation for graduate study in nursing.

Description of the Program in Nursing

As the first Department of Nursing in the State College System, the Nursing Program has a long and proud history. It is:

- Approved by the Board of Registration in Nursing
- Accredited by the National League for Nursing Accrediting Commission
- Supporting of a chapter of Sigma Theta Tau, the International Nursing Honor Society
- Supporting of a chapter of the National Student Nurses Association

It provides not only newly-renovated laboratories for on-campus practice of clinical skills with computer and audiovisual support, but also a wide variety of client care opportunities in affiliated health care agencies. Its graduates are in great demand in the professional job market, and many have progressed to leadership positions in practice, administration, research, and education.

Criteria for Admissions and Retention

The majority of departmental admissions are freshmen selected from qualified high school graduates. One year of high school chemistry is required for admission into the nursing major. The department also admits transfer students, who are not licensed nurses, but who meet the prerequisites for the sophomore year courses, as well as registered nurses who meet the prerequisites of the alternative junior year.

Registered nurses are provided with a variety of opportunities to achieve advanced placement in Liberal Arts and Sciences courses and in nursing via the CLEP program, College examinations, Nursing Mobility Profile II examinations, and a Portfolio Review Process.

As a professional preparation program, successful progress in the major necessitates requirements in addition to those common to all college students. These include:

- 2.00 or better in Anatomy and Physiology I and II and Pre-Biochemistry I and Elements of Human Biochemistry and Organic Chemistry
- 2.00 or better in all required nursing courses. Students may repeat a failed nursing course one time. Failure to achieve a 2.00 when a course is repeated will result in dismissal from the major. The repeat policy may be used one time during the course of study.
- Students are responsible for providing their own transportation to clinical practice sites.
- Annually, prior to participation in any clinical nursing course, students must present evidence to the Department of Nursing of: Hepatitis B and other immunizations, CPR certification/ recertification at the professional level, an annual physical examination, and Massachusetts nursing licensure (if applicable). Commonwealth of Massachusetts regulations regarding health records for students enrolled in the health sciences must be met through the campus Health Service office.

It may be necessary for students to take a portion of their clinical in the summer.

Requirements for the Major in Nursing

Graduation requires a minimum of 124 semester hours of credit comprised of:

- 64 credit hours of nursing
- 37 hours of required core courses in Liberal Arts and Sciences
- 23 hours of elective Liberal Arts and Sciences credits

Each semester of nursing after the pre-nursing freshman year includes a clinical/laboratory component as well as classroom theory. A variety of inpatient and community agencies in central and eastern Massachusetts offer practice opportunities to assist students toward professional competency.

To provide majors with assistance to meet the progression requirements and achieve success in the program, the department uses individual academic and personal advising by nursing faculty, referrals to campus services, and internal departmental resources. Under this advisement, all senior students select an - area of nursing practice for concentrated study in accordance with individualized learning objectives.

Part-time study is available to majors in lower division course work and to registered nurse students.

Philosophy

Chairperson
Jane Fiske

Professors
James Colbert
Ali Errishi
Walter Jeffko

Objectives for the Program in Philosophy

The Philosophy program provides a variety of courses which fulfill requirements in the Liberal Arts and Sciences Program. These courses explore philosophical inquiry from its beginnings to the present, reviewing the history of ideas and the development of ethical systems. A minor is also available.

Requirements for the Minor in Philosophy

The Philosophy Minor requires 15 semester hours. There is a prerequisite of PHIL 1000 or PHIL 1100. Courses for the minor must include:

PHIL	*3310*	*Ancient and Medieval Philosophy*
PHIL	*3330*	*Renaissance and Modern Philosophy* **or**
PHIL	*3340*	*Contemporary Philosophy*

At least one course from the following:

PHIL	*2500*	*Contemporary Ethical Problems*
PHIL	*2550*	*Contemporary Ethical Systems*
PHIL	*2600*	*Philosophy of Human Nature*
PHIL	*2660*	*Man and Nature II*
PHIL	*3600*	*Philosophy of Religion*
PHIL	*4500*	*Philosophy of Love*
		Two additional Philosophy courses

Physics

Chairperson
Robert J. Gardula

Professor
Ali Errishi
Esmail Valanejad

Assistant Professors
Lawrence Guth
Jiang Yu

Objectives for the Physics Program

The Physics Program offers a variety of courses which fulfill the laboratory science requirement for all students.

PHYS 1100, 1200, 2000, are for non-science majors and are strongly recommended for satisfying the Liberal Arts and Sciences requirements.

PHYS 1300 and 1400 are the standard non-calculus General Physics courses offered at most baccalaureate institutions. The sequence is taken by chemistry, mathematics, and most industrial technology majors. They are also appropriate to the non-science major interested in applying mathematical problem-solving techniques to physical settings.

PHYS 2100, 2200, 3100, 3200, 4100, and 4200 are all advanced courses that are offered from time to time in the form of free electives to those students who have had PHYS 1300 and 1400 and have shown keen interest in physics and mathematics.

Political Science

Chairperson
Michael Turk

Assistant Professors
Eric Budd
Rod Christy
Christina Mao
Paul Weizer

Objectives for the Program in Political Science

Courses in Political Science are intended for any student with a general interest in politics and government. They are also designed to provide a proper background for students interested in pursuing graduate study or a career in law, public administration, or government and political science.

Requirements for the Major in Political Science

The Bachelor of Science and Bachelor of Arts in Political Science require 36 hours of course work. All BA and BS candidates will pick an area of concentration after consulting with their faculty advisor.

Required Courses

POLS	*1000*	*U.S. Government*
POLS	*1100*	*Introduction to Political Science*
POLS	*2200*	*Contemporary International Relations*
PHIL	*4200*	*Political and Social Philosophy*

Concentration

With the assistance of their academic advisor, each student will select an area of concentration. Possible areas of concentration are American Government/Law or International Politics.

Electives

One of the electives must be a capstone course. For their capstone course, students can select any one of the following courses:

Internships in Political Science
Legal Internship
Senior Seminar in Political Science

Requirements for the Minor in Political Science

The Minor in Political Science includes:

Required Courses

POLS	*1000*	*U.S. Government*
POLS	*1100*	*Introduction to Political Science*

Electives

Choose four courses from at least two of the following three subfields: American Government, International Politics, and Public Policy/Public Administration.

Psychology

Chairperson
John Hancock

Coordinator
Cheryl Armstrong

Professors
Alan Bernstein
G. Jefferson Breen
Carol Globiana
Paul Girling
Peter Hogan
David Maloney
Richard Spencer

Associate Professors
John Hancock
Robert Wellman

Assistant Professors
Cheryl Armstrong
Michael Bloomfield
Sara Levine
Thomas Shilling
John Solin

Objectives for the Program in Psychology

The goal of the Psychology Program is to educate students in the scientific study of human behavior. The program combines theoretical, methodological, and applied topics enabling students to acquire knowledge and skills that enrich their personal lives and work careers.

The Psychology Program is a component of the Behavioral Sciences Department. It serves majors and minors in the discipline and offers supportive courses for a variety of other programs in the college.

Requirements for the Psychology Major

The degrees of Bachelor of Arts and Bachelor of Science in Psychology require a minimum of 37 semester hours of course work in Psychology, beyond the course in General Psychology. (The Bachelor of Arts degree requires foreign language proficiency at the second year college level.)

The program is divided into three groups of courses:

- Required courses
- Area electives
- Integrated or pre-professional courses

Group I—Required Courses

PSY 1100 General Psychology (not counted toward major)
PSY 2110 Introduction to Research Methods
PSY 2120 Psychological Statistics
PSY 3410 Experimental Psychology
PSY 3480 History and Systems in Psychology

Group II—Area Electives

Choose at least one course required from each area:

Area 1—Developmental

PSY 2210 Child Psychology
PSY 2230 Adolescent Psychology
PSY 2240 Adult Development
PSY 2250 Psychology of Women
PSY 2260 Gerontology
PSY 2280 Psychology of Human Sexuality
PSY 2320 Psychology of Death and Dying

Area 2—Adaptive

PSY 2160 The Psychology of Speech and Communication
PSY 2300 Psychology of Personality
PSY 2330 Psychology of Intimacy
PSY 2350 Abnormal Psychology
PSY 2370 Interpersonal Effectiveness
PSY 2400 Psychology of Captivity
PSY 2500 Social Psychology
PSY 2550 Group Dynamics
PSY 2570 Small Group Leadership
PSY 2620 Work and the Individual

Area 3—Basic Processes

PSY 3420 Physiological Psychology
PSY 3430 Perception
PSY 3500 Psychology of Learning
PSY 3530 Motivation
PSY 3550 Cognition

Area 4—Applied Studies

PSY 2450 Psychological Testing
PSY 2610 Organizational Psychology
PSY 2630 Human Factors/Ergonomics
PSY 2640 Performance Appraisal and Development
PSY 2650 Personnel Psychology
PSY 2710 Learning Theory and Its Application
PSY 2770 Principles of Guidance

Topics in Psychology, when offered, may serve as a required elective for the appropriate Group II area.

Group III—Integrative or Pre-Professional Courses

At least one course is required:

PSY 3220 Advanced Child Psychology
PSY 4800 Teaching Practicum
PSY 4803 Teaching Practicum
PSY 4810 Practicum in Psychology
PSY 4820 Practicum in Psychology
PSY 4900 Independent Study
PSY 4920 Advanced Psychology Seminar
PSY 4940 Internship in Psychology
PSY 4950 Internship in Psychology
PSY 4960 Internship in Psychology

The remainder of the nine credits in Psychology may be earned by taking additional courses from Groups II and III.

Requirements for Concentrations in Psychology

Any students majoring or minoring in Psychology may choose to develop special expertise in one of two areas: Developmental Psychology or Industrial/Organizational Psychology. In either case, students should consult the Psychology Student Handbook for guidelines.

Concentration in Industrial and Organizational Psychology

This concentration is designed to prepare students to enter a wide range of occupations in business and industry. It is particularly appropriate for students who want to pursue careers in personnel or human resource functions.

The concentration requires students to take 12 semester hours of course work from the courses listed below:

PSY 2610 Organizational Psychology (required)
PSY 2620 Work and the Individual
PSY 2630 Human Factors/Ergonomics
PSY 2640 Performance Appraisal and Development
PSY 2650 Personnel Psychology
PSY 5000 Topics in Psychology (when applicable)

Internships in Industrial and Organizational settings are available and strongly recommended for students taking this concentration.

Concentration in Developmental Psychology

This concentration is appropriate for students who plan to undertake advanced work in developmental psychology or who seek future employment in related fields.

Students must take at least 12 semester hours of course work from two groups of courses:

- Courses in Group I provide an introduction to various topics in developmental psychology
- Courses in Group II provide opportunities for in-depth exploration of issues through basic research and special projects

Group I

Choose three of the following courses:

PSY	*2230*	*Adolescent Psychology*
PSY	*2240*	*Adult Development*
PSY	*2250*	*Psychology of Women*
PSY	*2260*	*Gerontology: The Psychology of Growing Old*
PSY	*5000*	*Topics in Psychology (where applicable)*

Group III

Choose one of the following courses:

PSY	*3220*	*Advanced Child Psychology*
PSY	*4810*	*Practicum in Psychology*
PSY	*4820*	*Practicum in Psychology*
PSY	*4950*	*Internship in Psychology*
PSY	*4960*	*Internship in Psychology*
PSY	*4900*	*Independent Study (when applicable)*

Requirements for the Minor in Psychology

The minor in Psychology requires a minimum of 18 semester hours of course work beyond the course General Psychology. The Psychology minor is designed to enable the student to:

- Understand and evaluate psychological research and literature
- Choose courses which complement and relate to the major field of study
- Explore a particular interest in psychology in some depth

Accordingly, the following course organization is required:

Group I

Two courses are required.

PSY	*1100*	*General Psychology (prerequisite; not counted towards minor)*
PSY	*2110*	*Introduction to Research Methods*

Group II

At least one course is to be taken from **each** of any three of the four areas described under the major: Adaptive, Applied Studies, Basic Processes, and Developmental.

The remaining required courses may be selected from either the integrative courses (Group III) or any one of the above mentioned areas. Courses may also include:

PSY	*2220*	*Human Growth and Development*
PSY	*2750*	*Tests and Measurements*

Public Service Management

Chairpersons

John Hancock
Michael Turk
James Noonan

Objectives for the Program in Public Service Management

The program in Public Service Management is an interdisciplinary Minor from disciplines of Human Services, Business Administration, Political Science, Psychology, Sociology, and Computer Science.

The minor in Public Service Management focuses on the policies and management practices of public service organizations in order to strengthen the knowledge base and skills set of the student interested in a career in those fields serving the public needs.

Requirements for the Minor in Public Service Management

Required Courses (9 semester hours)

HMSV	*3580*	*Social Welfare Policy* **or**
POLS	*3000*	*Public Policy Analysis*
HMSV	*3000*	*Human Services Management* **or** *Public Administration*
POLS	*3000*	*Public Policy Analysis*
HMSV	*1150*	*Community Resources*

Elective Courses (9 semester hours)

CSC	*1100*	*Computer Applications Programming I*
PSY	*2370*	*Interpersonal Effectiveness*
PSY	*2620*	*Work and the Individual*
SOC	*2650*	*Sociology of the Organization*
BSAD	*3210*	*Human Resources Management*
HMSV	*3400*	*Community Organization*
BSAD	*3500*	*Business Law I*
BSAD	*4210*	*Social and Political Environments of Business*
BSAD	*4250*	*Ethical Decisions in Business*

Secondary Education (9–12)

Coordinator

Sibyl Brownlee

Clinical Professors

Sibyl Brownlee
Robert Champlin
Christopher Cratsley
Marilyn McCaffrey
Mark Snyder
Robert Tapply
Steven Therrien

Objectives for the Program in Secondary Education

A Secondary Education Program is offered for students seeking provisional teaching certification in the following disciplines:

- Biology
- Earth Science
- English
- History
- Mathematics
- Technology Education

Provisional Certification for Teaching

Students interested in teaching at the secondary level need to complete the provisional certification track for student teaching, a 3.0 in the major, a 2.75 cumulative GPA and passing scores on the Literacy sections of the Massachusetts Educators Certification Test are required. The requirements are as follows:

Major—Biology

Core Course Requirements

BIOL	*2860*	*Introduction to Secondary School Teaching*
ENGL	*4700*	*Teaching Writing in Secondary Schools*
BIOL	*4850*	*Special Methods in Biology*
BIOL	*4860*	*Biology Practicum in a Secondary School (150 hours)*
BIOL	*4870*	*Biology Practicum in a Secondary School (150 hours)*

Major—Geography

Core Course Requirements

GEOG	*2860*	*Introduction to Secondary School Teaching*
ENGL	*4700*	*Teaching Writing in Secondary Schools*
GEOG	*4850*	*Special Methods in Earth Science*
GEOG	*4860*	*Earth Science Practicum in a Secondary School (150 hours)*
GEOG	*4870*	*Earth Science Practicum in a Secondary School (150 hours)*

Major—English

Core Course Requirements

ENGL	*2860*	*Introduction to Secondary School Teaching*
ENGL	*4700*	*Teaching Writing in Secondary Schools*
ENGL	*4850*	*Special Methods in English*
ENGL	*4860*	*English Practicum in a Secondary School (150 hours)*
ENGL	*4870*	*English Practicum in a Secondary School (150 hours)*

Major—History

Core Course Requirements

HIST	*2860*	*Introduction to Secondary School Teaching*
ENGL	*4700*	*Teaching Writing in Secondary Schools*
HIST	*4850*	*Special Methods in History*
HIST	*4860*	*History Practicum in a Secondary School (150 hours)*
HIST	*4870*	*History Practicum in a Secondary School (150 hours)*

Major—Mathematics

Core Course Requirements

MATH	*2860*	*Introduction to Secondary School Teaching*
ENGL	*4700*	*Teaching Writing in Secondary Schools*
MATH	*4850*	*Special Methods in Mathematics*
MATH	*4860*	*Mathematics Practicum in a Secondary School (150 hours)*
MATH	*4870*	*Mathematics Practicum in a Secondary School (150 hours)*

Major—Technology Education

Core Course Requirements

Common Technical Core (24 semester hours)

Manufacturing Cluster

ITEC	*1200*	*Metal Fabrication Systems*
ITEC	*1300*	*Wood Fabrication Systems*

Communications Cluster

ITEC	*1400*	*Technical Drawing*
ITEC	*1500*	*Graphic Arts Processes*

Construction Cluster

ITEC	*2310*	*Construction Systems II*
ITEC	*2400*	*Architectural Drawing*

Power Energy and Transportation

ITEC	*2600*	*Energy Systems II*
ITEC	*3600*	*Energy Conservation Principles*

Professional Sequence (15 semester hours)

ITEC	*3800*	*Methods in Teaching Technology Education*
ITEC	*4840*	*Prepracticum Seminar*
ITEC	*4860*	*Practicum in Technology Education*
ITEC	*4870*	*Practicum in Technology Education*

External Requirements for all Secondary Education Students

Liberal Arts and Sciences Distribution which include:

PSY	*2230*	*Adolescent Psychology*

Sociology

Chairperson
John Hancock

Coordinator
Margot Kempers

Professors
Augustine Aryee
Margot Kempers

Associate Professor
Patricia Hayes

Assistant Professors
Jason Nwankwo
Kimberly Faust
Hilary Loring

Objectives for the Program in Sociology

The sociology major was designed to provide students with refined approaches and methods of research and a broad understanding of the world.

The curriculum has been developed to provide the theoretical background and research skills essential for work concerned with human behavior. Graduates of the program are prepared for immediate entry into a wide variety of occupations in business, education, industry, social service, and public service settings. In addition, many graduates continue formal study by enrolling in advanced degree programs in sociology and related fields.

Requirements for the Major in Sociology

The major requires 36 semester hours of course work in Sociology. This total includes a 12 semester hours of core courses and 24 semester hours of electives. Majors are encouraged to take advantage of relevant courses from the other two majors in the Behavioral Sciences Department.

Core Required Courses

SOC	*1100*	*Introduction to Sociology (prerequisite for all other Sociology courses)*
SOC	*2250*	*Cultural Anthropology*
SOC	*3130*	*Basic Skills of Social Research*
SOC	*3160*	*Social Theory*

Speech Requirement

Choose one course

SPCH	*1000*	*Introduction to Speech Communication*
SPCH	*1600*	*Public Speaking*
PSY	*2160*	*Psychology of Speech and Communication*

State and Federal Constitution Proficiency Requirement

Can be fulfilled by passing a written exam administered by the Department of Social Sciences or by completing one of the following courses:

POLS	*1000*	*United States Government*
POLS	*1500*	*State and Urban Government*
POLS	*2270*	*Introduction to the Legal Process*
POLS	*3600*	*Civil Rights and Civil Liberties in the United States*
HIST	*1400*	*United States History I*
HIST	*1500*	*United States History II*

Requirements for the Minor In Sociology

The minor in sociology consists of 18 semester hours in Sociology. There is a core of 9 semester hours including:

SOC	*1100*	*Introduction to Sociology*
SOC	*3130*	*Basic Skills in Social Research*
SOC	*3160*	*Social Theory*

The remaining 9 semester hours may be selected according to student needs and interests from Sociology electives.

Spanish

Chairperson
Jane Fiske

Professor
Maria Jaramillo

Assistant Professor
Keyvan Karbasioun

Objectives for the Program in Spanish

The Spanish Program offers students the opportunity to begin the study of Spanish language and culture or to continue study at an intermediate or advanced level.

Requirements for the Minor in Spanish

The minor in Spanish requires a minimum of 15 semester hours, including the following:

Placement Exam

Students who have taken more than one year of Spanish in high school, but have not yet taken a Spanish course at Fitchburg State College, and students who speak Spanish at home are required to take a Placement Exam if they wish to register for a Spanish course at the course at the college level.

Required Courses

SPAN	*2200*	*Intermediate Spanish I*
SPAN	*2300*	*Intermediate Spanish II*

Electives

Choose at least three from the following:

SPAN	*2600*	*Hispanic Culture*
SPAN	*2700*	*Hispanic Literature I*
SPAN	*3500*	*Spanish Conversation and Composition*
SPAN	*4903*	*Independent Study*

Special Education

Chairperson
Michael Fiorentino

Professors
Katherine Flynn
Michael Fiorentino
Elaine Francis
Rosemarie Giovino
Anne May
Shari Stokes

Associate Professor
Anne Howard

Objectives for the Major in Special Education

The Special Education Department at Fitchburg State College offers the oldest and most comprehensive state program in the Commonwealth of Massachusetts. In this program, emphasis is on theory, content, and the ability to use strategies and resources in working with children and adults who have special needs in the least restrictive or inclusive environment.

This program prepares graduates to be Teachers of Students with Special Needs (PreK-9) (5-12), and Teachers of Students with Intensive Special Needs (all levels). Students are also prepared for the general education classroom and receive certification as Elementary Teachers (Grades 1-6).

Description of the Major in Special Education

The program has been developed with an underlying belief in the potential of individuals with special needs. Students are involved early in their program with field-based experiences and academic classes to help clarify career decisions and to develop the knowledge, skills, and attitudes to be effective special educators.

All Special Education majors graduate with a dual major in Special Education and Interdisciplinary Studies, and dual certification in Special Education and Elementary Education. The LA&S major is required by the Commonwealth of all future teachers. Students are advised by academic advisors in both majors.

In keeping with Commonwealth of Massachusetts certification requirements, graduates of the program are eligible for Advanced Provisional Certification (first certificate). Students are required to receive standard certification within five years after employment in Massachusetts as a provisionally-certified teacher. Students with provisional certificates may be employed while completing requirements for standard certification. All certification candidates must satisfy the Constitution requirement of the Commonwealth. (See "Common Graduation Requirements...")

Professional Opportunities Within the Major

The Special Education Club, a student chapter of the professional organization Council for Exceptional Children, offers students the opportunity to grow professionally while meeting college students with similar interests.

Criteria for Admission to the Department Teacher Preparation Programs

All students must be **formally admitted** to the Special Education teacher preparation program of their choice. A student's advisor initiates this process, the First Stage Review, when the student has completed 44 credits.

Formal admission requires all of the following:

- Minimum cumulative gpa of 2.5.
- Enrollment in or completion of the appropriate introductory professional course.
- Positive recommendation from the faculty in the student's teacher preparation program.

The First Stage Review also asks a student whether he or she has been convicted of a felony, as defined by the courts of any state (which makes a student ineligible for a teacher preparation program) and requires him or her to sign-off on a list of requirements to be completed prior to student teaching.

A student denied formal admission to a teacher preparation program can appeal to the appropriate department chair.

Transfer students must have a GPA of 2.5 or receive a GPA of 2.5 during their first semester of matriculation to be admitted to the program.

Admission to the Practicum (Student Teaching)

To participate in the Practicum of their teacher preparation program, students must successfully undergo a Second Stage Review, which requires them to meet all of the following criteria:

- Minimum cumulative gpa of 2.75.
- Minimum 3.0 gpa in professional courses.
- Passing scores on the literacy sections (Reading and Writing) of the Massachusetts Educators Certification Test.
- Successful completion of the tuberculin (Mantoux) screening test.

Transfer students are required to have taken 12 semester hours from at least three different professors within their teacher preparation program prior to student teaching.

The Second Stage Review again asks a student whether he or she has been convicted of a felony, and requires him or her to sign-off on a list of requirements for admission to the Practicum.

Finally, the Second Stage Review requires a positive recommendation from the faculty in the student's teacher preparation program. This includes a review of the student's performance in coursework, the pre-practicum evaluations and the Personal Characteristics Checklist.

Requirements for Teachers of Students with Special Needs (PreK-9 or 5-12)

This program prepares special educators to teach individuals with cognitive, emotional, social, language, and academic problems, who are included in general education classrooms or are in a variety of special education settings. In addition, students in this program are prepared to meet the certification standards of the Massachusetts Department of Education for Elementary Teacher.

Required Courses
(all have related field experiences.)

SPED	*2150*	*Introduction to Individuals with Special Needs*
SPED	*2521*	*Science and Social Studies: Teaching and Adapting Instruction*
SPED	*2522*	*Language Arts: Teaching and Adapting Instruction*
SPED	*3401*	*Language Development and Speech*

The Integrated Professional Pre-Practium/Practium
(IPP—12 total credits)

The Integrated Professional Program is a unique experience that fosters the continuous integration of theory and application. It involves a 12 credit block of theoretical courses and teaching in a public school setting (1/2 days 4 days a week). Students function in the role of the Elementary teacher (1/2 semester) and in the role of the Intensive Special Education teacher (1/2 semester). Throughout this semester students receive supervised support by college faculty and cooperating teachers. One day a week students return to campus for coursework in Reading/Learning Problems and Math/Learning Problems that link theoretical content to teaching strategies.

**Note: Students desiring provisional certification at the secondary level complete field experiences in a middle or high school setting when in the role of the Special Educator.*

IPP Curriculum
(One day a week)

SPED	*3655*	*IPP Curriculum: Reading/Learning Problems Math/Learning Problems*

IPP Pre-Practicum/Practicum
(in schools 4 mornings)

SPED	*3665*	*1/2 semester Elementary*
SPED	*3675*	*1/2 semester Special Education PreK-9* **or**
SPED	*3676*	*1/2 semester Special Education 5-12*

Student Teaching
(2 practica: Mon.–Thurs. full days in school)

SPED	*3860*	*1/2 semester Elementary*
SPED	*3870*	*1/2 semester Special Education PreK-9* **or**
SPED	*3875*	*1/2 semester Special Education 5-12 (Students in the 5-12 program complete the practicum in a Middle or High School).*

Taken in conjunction with *SPED 3500 Behavior Management Assessment* and *SPED 4001 Assessment of Students with Special Needs.*

An Interdisciplinary Studies major is also required for certification.

External Requirements
Liberal Arts and Sciences Distribution which include:

ENGL	*2900*	*Children's Literature (PreK-9)* **or**
ENGL	*2910*	*Literature for Young Adults (5-12)*
GEOG	*1000*	*Introduction to Geography*
PHIL	*2000*	*Philosophy of Education*
PSY	*1000*	*General Psychology*
PSY	*2100*	*Child Psychology*
PSY	*2230*	*Adolescent Psychology (5-12)*
PSY	*2710*	*Learning Theory and Its Application*

One of the following:

SPCH	*1000*	*Introduction to Speech Communication*
PSY	*2160*	*Psychology of Speech and Communication*
PSY	*2370*	*Interpersonal Effectiveness*
PSY	*2550*	*Group Dynamics*
PSY	*2570*	*Small Group Leadership*

An Interdisciplinary Studies major is also required for certification.

Requirements for Teachers of Students with Intensive Special Needs (All Levels)

This program addresses the needs of individuals who have severe disabilities, often with accompanying physical, emotional, and behavioral disorders. Curricula focuses on teaching independent living skills so that individuals with intensive special needs can live as independently as possible in home, school, and community environments. Students in this program meet the certification standards of the Massachusetts Department of Education for Teacher of Students with Intensive Special Needs and Elementary Teacher (Grades 1-6).

Required Courses

SPED	*2150*	*Introduction to Individuals with Special Needs*
SPED	*2510*	*Students with Physical and Health Care Needs*
SPED	*2521*	*Science and Social Studies: Teaching and Adapting Instruction*
SPED	*2522*	*Language Arts: Teaching and Adapting Instruction*
SPED	*3401*	*Language Development and Speech*

Integrated Professional Pre-Practicum/Practicum
(IPP—12 total credits)

The Integrated Professional Program

The Integrated Professional Program is a unique experience that fosters the continuous integration of theory and application. It involves a 12 credit block of theoretical courses and teaching in a public school setting (1/2 days 4 days a week). Students function in the role of the Elementary teacher (1/2 semester) and in the role of the Intensive Special Educator (1/2 semester). Throughout this semester students receive supervised support by college faculty and cooperating teachers. One day a week students return to campus for coursework in Reading, Math, and Learning problems that link theoretical content to teaching in the public schools.

IPP Curriculum

(One day a week)

SPED 3655 IPP Curriculum: Reading/Learning Problems Math/Learning Problems

IPP Pre-Practicum/Practicum

(in schools 4 mornings)

SPED 3665 1/2 semester Elementary
SPED 3765 1/2 semester Special Education (Intensive)

Student Teaching

(2 practica: Mon.–Thurs. in school)

SPED 3860 1/2 semester Elementary

SPED 3840 1/2 semester Special Education (Intensive)

Taken in conjunction with *SPED 3500 Behavior Management* and *SPED 2200 Program Development for Students with Intensive Special Needs.*

External Requirements

Liberal Arts and Sciences Distribution which include:

BIOL 1200 Anatomy and Physiology
ENGL 2900 Children's Literature
GEOG 1000 Introduction to Geography
PHIL 2000 Philosophy of Education
PSY 1000 General Psychology
PSY 2100 Child Psychology
PSY 2710 Learning Theory and Its Application

Choose one of the following courses:

SPCH 1000 Introduction to Speech Communication
PSY 2160 Psychology of Speech and Communication
PSY 2370 Interpersonal Effectiveness
PSY 2550 Group Dynamics
PSY 2570 Small Group Leadership

An Interdisciplinary Studies major is also required for certification.

Speech

Chairperson

Nancy Yee

Assistant Professor

Angela Nastasee-Carder

Objectives for the Program in Speech

The Speech Program offers a number of courses to students which meet the Speaking/Listening requirement in the Liberal Arts and Sciences Program for many disciplines. Students should check with their advisors to see which courses are recommended for them.

Theater

Chairperson
Nancy Yee

Associate Professors
Richard McElvain
Kelly Morgan

Objectives for the Program in Theater

The Theater Program serves all students by offering courses that study the history and literature of theater as well as performing arts skills in acting, directing and stagecraft production. Opportunities to perform annual productions are also available. An interdisciplinary major or minor is also available. See minor in Theater.

Requirements for the Major in English/Theater

The courses required in the major are described under the English major on page 86.

Requirements for the Major in Technical Theater

The courses required for Technical Theater are described under the Industrial Technology major on page 99.

The Minor in Theater

The Theater Minor requires a minimum of 15 semester hours, including Introduction to Theater (THEA 2000), Directing the Play (THEA 4000), and at least 2 of the following courses:

THEA	*3000*	*Stagecraft and Theater Production*
THEA	*2500*	*Stage Movement* **or**
PHED	*4050*	*Art of Dance*
THEA	*2700*	*Acting* **or**
PHED	*4130*	*Making Dances*

and at least one of the following courses:

ENGL	*3000*	*World Drama*
ENGL	*3010*	*American Drams*
ENGL	*3020*	*Modern Drama*
ENGL	*4020*	*Shakespeare's Drama* **or**
ENGL	*4030*	*Shakespeare's Thought*

Three hours of Theater internship may also count toward the minor.

Women's Studies

Chairpersons
John Hancock
Michael Turk
Nancy Yee

Coordinators
Nancy Kelly
Margot Kempers

Objectives for the Women's Studies Program

The program in Women's Studies provides multicultural and interdisciplinary courses which examine women's roles, history, and issues. These courses satisfy requirements in the Liberal Arts and Sciences Program and also can be counted toward an interdepartmental minor.

Requirements for the Minor in Women's Studies

The minor in Women's Studies includes the Introduction to Women's Studies and five other courses including independent study, selected from the following courses:

Required Course

IDIS	*1000*	*Introduction to Women's Studies*

Electives

Choose five from the following:

IDIS	*1100*	*Women in Latin America*
PSY	*2250*	*Psychology of Women*
IDIS	*2340*	*Contemporary Issues in Women's Health*
HIST	*2450*	*History of U.S. Women to 1870*
HIST	*2500*	*History of U.S. Women from 1870 to the Present*
ENG	*3300*	*Women and Literature*
HIST	*3450*	*Women in European History since 1700*
ART	*3700*	*Women, Art, and Society*
SOC	*3770*	*Women in American Society*
MUSC	*3900*	*Women, Music and Society*
IDIS	*4903*	*Independent Study in Women's Studies*

Worcester School for Professional Crafts

Chairperson
Jane Fiske

Objectives for the Bachelor of Interdisciplinary Studies-Crafts

In conjunction with the Worcester Center for Professional Crafts, Fitchburg State College offers a Bachelor of General Studies-Crafts with an emphasis in any one of the following materials: Clay, Fiber, Metals, or Wood.

Criteria for Admission

A student must meet the following criteria for admission to this program:

- Meet the academic standards for admission to the college
- Submit and have approved a portfolio of work
- Complete 60 credit hours in the Liberal Arts and Sciences program before going to complete the Crafts portion of the degree at the Worcester School for Professional Crafts

Requirements for the Bachelor of General Studies—Crafts

The core courses (6 credits each) for all Crafts majors are:

WSPC 1410 Drawing for Crafts
WSPC 2410 Design for Crafts
WSPC 3410 Slide Photography and Business Practices
WSPC 4410 Craft History Seminar

Clay

The specific sequence of courses in Clay is: (3 credits each)

WSPC 1010 Clay Formulation
WSPC 1020 Handbuilding in Clay
WSPC 1030 Design for Clay
WSPC 2010 Wheel Throwing
WSPC 2020 Glaze Formulation I
WSPC 2030 Electric Kilns: Firing and Maintenance
WSPC 3010 Production Techniques in Clay
WSPC 3020 Glaze Formulation II
WSPC 3030 Design for Production Methods
WSPC 4010 Advanced Clay
WSPC 4020 Independent Directions in Design
WSPC 4030 Kiln Design and Construction

Fiber

The specific sequence of courses in Fiber is: (3 credits each)

WSPC 1110 Weaving I
WSPC 1120 Surface Design I
WSPC 1130 Fundamentals of Dye Technology
WSPC 2110 Weaving II
WSPC 2120 Textile Design
WSPC 2130 Surface Design II
WSPC 3110 Hand Constructed Textiles
WSPC 3120 Advanced Techniques
WSPC 3130 Clothing Design Project I
WSPC 4110 Conceptual Approach to Fiber Art
WSPC 4120 Interior Objects Design Project
WSPC 4130 Clothing Design Project II

Metals

The specific sequence of courses in Metals is: (3 credits each)

WSPC 1210 Design for Metals
WSPC 1220 Surface Enrichment
WSPC 1230 Fabrication I
WSPC 2210 Introduction to Casting
WSPC 2220 Stone Setting
WSPC 2230 Fabrication II
WSPC 3210 Design for Casting
WSPC 3220 Toolmaking and Blacksmithing
WSPC 3230 Mechanisms for Jewelers
WSPC 4210 Personal Directions in Design
WSPC 4220 Advanced Techniques
WSPC 4230 Production Methods

Wood

The specific sequence of courses in Wood is: (3 credits each)

WSPC 1310 Design in Wood
WSPC 1320 Characteristics of Wood Carving
WSPC 1330 Hand Tool Joinery Techniques
WSPC 2310 Furniture Design
WSPC 2320 Construction Techniques
WSPC 2330 Care and Use of Machinery
WSPC 3310 Mechanical Drawing for Furniture
WSPC 3320 Human Factors in Furniture Design
WSPC 3330 Advance Construction Techniques
WSPC 4310 Personal Directions in Design
WSPC 4320 Woodworking Business
WSPC 4330 Advanced Techniques

These courses satisfy the areas of Design, Production, and Technology as well as the Capstone required of General Studies-Crafts students.

Undergraduate Evening Programs

The Office of Graduate and Continuing Education provides undergraduate degree programs in selected fields along with a variety of life-long learning opportunities and an array of liberal arts courses open to degree-seeking and non-degree students. With its commitment to affordable and accessible high-quality education, GCE offers its undergraduate courses on campus locations and via distance-education modes, including the Internet. Courses are offered at times, including summer and winter sessions, convenient to non-traditional and traditional-age students.

Administration

Graduate and Continuing Education is administered by the Office of Academic Affairs. Degree specializations originate in the appropriate academic department of the college. Where there are no corresponding academic departments, committees perform the appropriate functions. GCE is responsible, in cooperation with the appropriate academic departments, for:

- Maintaining the quality of degree programs
- Scheduling courses
- Advising students

Faculty

Courses offered through Graduate and Continuing Education are taught by FSC faculty and other qualified individuals brought into the program as Adjunct Faculty.

Degree Majors, Minors, and Certificate Programs

Bachelor's Degrees

BS in Business Administration
- Accounting
- Finance
- Fitness Management
- Management
- Marketing

BS in Computer Science

BS in Computer Information Systems

BA/BS in Interdisciplinary Studies

BS in Occupational/Vocational Education

Minors

English

Psychology

Certificate Programs

Business

Computer Hardware

Computer Use and Applications

Office Administration

Plastics Technology
(Offered off-campus at NYPRO Inc. in Clinton only)

Programming in High Level Languages

Programming Languages: COBOL

Web Development

Approval Programs

Vocational Technical Teacher Approval Program

BS in Business Administration

Chairperson *James Noonan*

Program Manager *Sylvia Charland*

Program Objectives

Students who graduate from the Business Administration Program are equipped with a knowledge of business theories, policies, and procedures and are prepared to take a responsible position within the world of business. The program refines a student's commitment to personal values and moral excellence as well as professional competence.

Program of Study

The degree offered by the Business Administration Department is the Bachelor of Science degree. The curriculum is based in the Liberal Arts, coupled with a sufficient mix of professional courses and a variety of practical business experiences.

BS in Business Administration Concentrations

- Accounting
- Fitness Management
- Finance (only offered at night)
- Management
- Marketing

Liberal Arts and Sciences Requirements

BSAD	*1700*	*Introduction to Computer Information Systems for Business*	*3 S.H.*
ENGL	*1100*	*Writing I*	*3 S.H.*
ENGL	*1200*	*Writing II*	*3 S.H.*
PHED	*1000*	*Health and Fitness*	*3 S.H.*
MATH	*1800*	*Business Statistics*	*3 S.H.*
MATH	*2200*	*Calculus for Business*	*3 S.H.*
ECON	*1000*	*Principles of Economics I (Macro)*	*3 S.H.*
ECON	*1200*	*Principles of Economics II (Micro)*	*3 S.H.*
SPCH	*1000*	*Introduction to Speech Communications*	*3 S.H.*
		Additional Liberal Arts and Sciences requirements	*33 S.H.*
		Subtotal of Liberal Arts and Sciences	*60 S.H.*

Core Curriculum

For All Business Administration Concentrations:

BSAD	*2010*	*Introduction to Financial Reporting*	*3 S.H.*
BSAD	*2020*	*Introduction to Managerial Accounting*	*3 S.H.*
BSAD	*3200*	*Principles of Management*	*3 S.H.*
BSAD	*3300*	*Fundamentals of Marketing*	*3 S.H.*
BSAD	*3400*	*Basic Finance*	*3 S.H.*
BSAD	*3500*	*Business Law I*	*3 S.H.*
BSAD	*4890*	*Business Policy and Strategy*	*3 S.H.*
		Subtotal Core Curriculum	*21 S.H.*

PROFILE

Ulysses Shields

Evening Undergraduate Student

"Ule" Shields graduated from Fitchburg State in May with a bachelor's degree in business management. He's been attending college off and on for about 10 years and, although there have been some sacrifices along the way, it's been well worth the effort. He says he's proud of his outstanding academic record at FSC, and believes his degree will open up some new professional opportunities for him. Currently, Ule is the EEO Administrator for Simplex Time Recorder Company in Gardner. A resident of Mason, New Hampshire, where he and his wife are raising their four children. Ule enjoys refereeing middle-school intramural basketball games, and is a basketball and baseball coach. He has this advice for college students: "Seize the golden ring and go for it. Don't limit yourself. Take advantage of opportunities. Most of all, be flexible."

Specializations for the Major in Business Administration

Accounting

Required Courses

BSAD	*3010*	*Financial Reporting Theory and Practice I*	*3 S.H.*
BSAD	*3020*	*Financial Reporting Theory and Practice II*	*3 S.H.*
BSAD	*3120*	*Cost Accounting I*	*3 S.H.*
BSAD	*4010*	*Financial Reporting Theory and Practice III*	*3 S.H.*
BSAD	*4110*	*International Accounting and Taxation*	*3 S.H.*
BSAD	*4120*	*Individual Taxation*	*3 S.H.*
BSAD	*4140*	*Auditing*	*3 S.H.*
BSAD	*4500*	*Business Law II*	*3 S.H.*
		Electives	*15 S.H.*

Directed Advanced Elective

Choose any one of the following:

BSAD	*4100*	*Consolidation and Mergers*	*3 S.H.*
BSAD	*4130*	*Corporate, Estate, and Gift Taxation*	*3 S.H.*
BSAD	*4160*	*Not for Profit Accounting*	*3 S.H.*

Finance

Required Courses

BSAD	*3410*	*Investments*	*3 S.H.*
BSAD	*3460*	*Real Estate Investment and Management*	*3 S.H.*
BSAD	*4230*	*Business Fluctuations and Forecasting*	*3 S.H.*
BSAD	*4400*	*Financial Management of Corporations*	*3 S.H.*
BSAD	*4500*	*Business Law II*	*3 S.H.*
BSAD	*4880*	*International Business Management*	*3 S.H.*
BSAD	*5000*	*Topics in Business*	*3 S.H.*
ECON	*2400*	*Money and Banking*	*3 S.H.*
		Electives	*15 S.H.*

Management

Required Courses

BSAD	*3210*	*Human Resources Management*	*3 S.H.*
BSAD	*3220*	*Production Management*	*3 S.H.*
BSAD	*4200*	*Organizational Behavior and Theory*	*3 S.H.*
BSAD	*4210*	*Social and Political Environment of Business*	*3 S.H.*
BSAD	*4230*	*Business Fluctuations and Forecasting*	*3 S.H.*
BSAD	*4880*	*International Business Management*	*3 S.H.*
		Electives	*21 S.H.*

Marketing

Required Courses

BSAD	*3310*	*Consumer Behavior*	*3 S.H.*
BSAD	*3320*	*Market Research*	*3 S.H.*
BSAD	*3330*	*Advertising*	*3 S.H.*
BSAD	*4880*	*International Business Management*	*3 S.H.*

Choose any three of the following:

BSAD	*3340*	*Small Business Management*	*3 S.H.*
BSAD	*3350*	*Total Quality Management*	*3 S.H.*
BSAD	*4300*	*Sales Management*	*3 S.H.*
BSAD	*4310*	*Retail Marketing*	*3 S.H.*
BSAD	*4320*	*Industrial Marketing*	*3 S.H.*
BSAD	*4330*	*International Marketing*	*3 S.H.*
BSAD	*4340*	*Developing Marketing Strategies*	*3 S.H.*
		Electives	*18 S.H.*
		Subtotal of Major and Electives	*39 S.H.*

Business/Fitness Management

(See Physical Education.)

BIOL	*1200*	*Anatomy and Physiology I*	*3 S.H.*
BIOL	*1300*	*Anatomy and Physiology II*	*3 S.H.*
BIOL	*1650*	*Nutrition* **or**	*3 S.H.*
PHED	*3060*	*Exercise, Nutrition and Heart Disease*	*3 S.H.*
PHED	*2090*	*First Aid*	*3 S.H.*
PHED	*2091*	*CPR*	*3 S.H.*
PHED	*3070*	*Exercise Physiology*	*3 S.H.*
PHED	*4030*	*Physical Education Fitness and Sport: An Overview*	*3 S.H.*
PHED	*4170*	*Exercise Testing and Prescription*	*3 S.H.*
BSAD	*4880*	*International Business Management*	*3 S.H.*
PHED	*4950*	*Internship Fitness Management*	*3 S.H.*
		Physical Education Elective (Choose any one physical activity or dance elective.)	

Total for Degree ***120 S.H.***

BS in Computer Science

Chairperson ***Program Manager***
Nadimpalli Mahadev *Natalia Kourtanina*

Program Objectives

Students who graduate with a degree in Computer Science have developed a unique blend of knowledge and skills in the areas of computer software, hardware, and mathematics. The program is designed to prepare students for positions within organizations that design and engineer hardware and/or software systems in the constantly developing high-technology marketplace.

Program of Study

The degree offered by the Computer Science Department is the Bachelor of Science degree.

Liberal Arts and Sciences Requirements

ENGL	*1100*	*Writing I*	*3 S.H.*
ENGL	*1200*	*Writing II*	*3 S.H.*
PHED	*1000*	*Health and Fitness*	*3 S.H.*
PHYS	*1300*	*General Physics I*	*4 S.H.*
PHYS	*1400*	*General Physics II*	*4 S.H.*
MATH	*2300*	*Calculus I*	*3 S.H.*
MATH	*2400*	*Calculus II*	*3 S.H.*
MATH	*2600*	*Linear Algebra*	*3 S.H.*
MATH	*3100*	*Discrete Algebraic Structures*	*3 S.H.*
		One Mathematics course above Calculus II	*3 S.H.*
		Additional Liberal Arts and Sciences requirements	*30 S.H.*
		Subtotal Liberal Arts and Sciences	*62 S.H.*

Major Required Courses

CSC	*1500*	*Computer Science I*	*3 S.H.*
CSC	*1550*	*Computer Science II*	*3 S.H.*
CSC	*2500*	*Assembly Language Programming*	*3 S.H.*
CSC	*2560*	*Systems Programming*	*3 S.H.*
CSC	*3100*	*Operating Systems*	*3 S.H.*
CSC	*3700*	*Algorithms and Data Structures*	*3 S.H.*
CSC	*1600*	*Introduction to Electronics*	*4 S.H.*
CSC	*1650*	*Digital Electronics*	*4 S.H.*
CSC	*2600*	*Computer Organization*	*4 S.H.*
CSC	*3600*	*Microprocessors*	*4 S.H.*
		Subtotal Major Courses	*34 S.H.*
		Five Computer Science Electives	*15 S.H.*
		Electives in any area to bring total to minimum of 120 semester hours	*9 S.H.*
		Total for Degree	***120 S.H.***

BS in Computer Information Systems

Chairpersons ***Program Manager***
Nadimpalli Mahadev *Nadimpalli Mahadev*
James Noonan

Program Objectives

The program is designed to prepare students to be systems analysts, programmers, project managers, business analysts, and consultants in business settings by providing them with the opportunity to learn business and computer skills.

The Computer Information Systems Program offers an interdisciplinary major which incorporates courses from both the Business Administration and Computer Science Departments.

Program of Study

Liberal Arts and Sciences Requirements

ENGL	*1100*	*Writing I*	*3 S.H.*
ENGL	*1200*	*Writing II*	*3 S.H.*
PHED	*1000*	*Health and Fitness*	*3 S.H.*
CSC	*1500*	*Computer Science I*	*3 S.H.*
MATH	*1800*	*Business Statistics*	*3 S.H.*
MATH	*2200*	*Calculus for Business*	*3 S.H.*
Select one:			
BSAD	*1700*	*Introduction to Business Data Processing* **or**	*3 S.H.*
CSC	*1100*	*Computer Application Programming I*	*3 S.H.*
Select one:			
ECON	*1000*	*Principles of Economics: Macro* **or**	*3 S.H.*
ECON	*1200*	*Principles of Economics: Micro* **or**	*3 S.H.*
ECON	*1250*	*Introduction to the U.S. Economy*	*3 S.H.*

Major Required Courses

CSC	*1550*	*Computer Science II*	*3 S.H.*
CSC	*2500*	*Assembly Language Programming*	*3 S.H.*
CSC	*2560*	*Systems Programming*	*3 S.H.*
CSC	*2700*	*COBOL-1*	*3 S.H.*
CSC	*3200*	*Programming Languages*	*3 S.H.*
CSC	*3450*	*Local Area Networks*	*3 S.H.*
BSAD	*2010*	*Introduction to Financial Reporting*	*3 S.H*
BSAD	*2020*	*Introduction to Managerial Accounting*	*3 S.H.*
BSAD	*3200*	*Principles of Management*	*3 S.H.*
BSAD	*3300*	*Fundamentals of Marketing*	*3 S.H.*
BSAD	*3400*	*Basic Finance*	*3 S.H.*
BSAD	*3500*	*Business Law I*	*3 S.H*
BSAD	*3710*	*Systems Analysis Methods*	*3 S.H.*
BSAD	*4700*	*Structured Systems Analysis and Design*	*3 S.H.*
Select One:			
BSAD	*4720*	*Database Management Systems* **or**	*3 S.H.*
CSC	*4500*	*Database Design*	*3 S.H.*
		Electives in any area to bring total to minimum of 120 semester hours.	
		Total for Degree	***120 S.H.***

BA/BS in Interdisciplinary Studies (General Studies)

Program Manager
George Bohrer

Program Objectives

The Bachelor of Science and Bachelor of Arts in Interdisciplinary Studies degrees provide for individually-designed, interdisciplinary majors, which allow students to work with faculty advisors to develop a plan of study that responds to individual educational and professional goals. The programs are particularly well-suited to adult learners, because they provide the opportunity for part-time, individually-paced education which allows students to build their academic confidence and integrate their studies into their lives.

Admission Standards and Criteria

There is a formal application procedure for students who choose to major in Interdisciplinary Studies. However, before the application is submitted to the Interdisciplinary Studies Coordinator, a student must have completed at least four semesters of college level work. The purpose of the application is to:

- Set forth the student's academic and professional goals and demonstrate why they are best achieved through the General Studies Program
- Require students to outline their proposed program
- Stipulate any required independent exercise or internship
- Provide college-level courses and grades

The Interdisciplinary Studies Coordinator along with the Interdisciplinary Studies Committee reviews the application with the student and, if approved, finalize the plan of study. The student's advisor is chosen and will be responsible for filing a copy of the student's program with the Registrar. Any subsequent changes in the student's program must be approved by the student's General Studies Committee.

Breakdown of Requirements for Major

- A minimum of 36 semester hours of course work for the major with a college-approved minor within one of the three fields
- A minimum of 9 semester hours in each of the other two fields of study (defined by disciplines, not department or tracks)
- A common core of three Liberal Arts and Sciences interdisciplinary courses: IDIS 1800, Global Issues; MUSC 2000, Commonwealth of the Arts **or** MUSC 2100, Commonwealth of the Ancient Arts; and PHIL 1000, Logic **or** PHIL 2600, Philosophy of Human Nature **or** PHIL 3340 Contemporary Philosophy **or** PHIL 4430 Marxism.
- A senior-year "Capstone" course intended to help students to integrate the various fields of study
  This may take the form of an independent study or an internship (3-15 semester hours)
- A minimum 30 semester hours of course work completed after the program of study is approved and filed with the registrar

A student's program must meet the approval of their Interdisciplinary Studies' advisor and advisors from each of the chosen fields of study.

Program of Study

The Interdisciplinary Studies degree is typically awarded as a Bachelor of Science. A Bachelor of Arts is awarded if the student includes foreign language study through the second year of college level work and concentrates his/her field of studies in the Liberal Arts and Sciences fields.

There are many possible combinations of course work available through this major, limited only by the breadth of courses offered through the day and evening divisions of the college. When creating a plan of study, a student must have a rationale for a thematic approach to their program. Students must meet the following requirements for the major:

Liberal Arts and Sciences Requirements		
	LA&S Requirements (may go up to 63, depending upon whether science courses taken are 3 or 4 S.H.)	*60 S.H.*
Major Required Courses		
	Major Courses including the required core (three or four fields of study)	*36 S.H.*
Capstone		
	Capstone Course, Project, **or** *Internship in Major*	*3-15 S.H.*
Electives		
	Electives (may be fewer depending upon credits taken in above two categories.)	*21 S.H.*
	Total for Degree	***120 S.H.***

BS in Occupational/Vocational Education

Chairperson — *Stanley Bucholc*

Program Manager — *Lloyd Harte*

Program Objectives

The college's undergraduate Occupational Education Degree program provides students with a blend of academic, vocational technical teaching, and elective learning opportunities. The program is committed to educating participants in comprehensive personnel development, which responds to specific occupational updating, professional growth and enhancement, and state-of-the-art information sharing for and with vocational technical educators. The program advocates a teaching approach, which brings about desired changes in the knowledge, skills, attitudes, and appreciation level of those in training.

Program of Study

The Occupational/Vocational Education degree is a Bachelor of Science Degree. A significant component of the program is the availability to students at off-campus vocational technical school sites located across Massachusetts.

Job relevance and valid, reliable, vocational technical practice is attained through participatory planning and affiliation with industry, vocational technical school practitioners, professional associations, and representatives of the college.

The program offers up to twelve credits in recognition of the work experiences of the participating students. Candidates may apply for the trade experience credit after completing eighty credits in the program.

Principal Sites where the Program is Offered

North

Greater Lowell Regional Vocational Technical High School

Central

Assabet Valley Regional Vocational High School
Montachusett Regional Vocational Technical High School

South

Bristol-Plymouth Regional Vocational High School
Diman Regional Vocational Technical High School
Greater New Bedford Regional Vocational High School

General Education or Liberal Arts and Sciences Requirements

CSC	*1100*	*Computer Application Programming*	*3 S.H.*
ENGL	*1100*	*Writing I*	*3 S.H.*
ENGL	*1200*	*Writing II*	*3 S.H.*
HIST	*1400*	*US History I* **or**	*3 S.H.*
HIST	*1500*	*US History II*	*3 S.H.*
PHED	*1000*	*Health and Fitness*	*3 S.H.*
PHIL	*1000*	*Introduction to Western Philosophy*	*3 S.H.*
PHIL	*2000*	*Philosophy of Education*	*3 S.H.*
PSY	*1100*	*General Psychology*	*3 S.H.*
PSY	*2230*	*Adolescent Psychology*	*3 S.H.*
SPCH	*1000*	*Introduction to Speech Communications*	*3 S.H.*
		Additional Liberal Arts and Sciences Requirements	*33 S.H.*
		Subtotal	***60 S.H.***

Vocational Education Requirements

OCED	*5515*	*Teaching Methods: Instructional Strategies in Vocational Technical Education*	*3 S.H.*
OCED	*5516*	*Teaching Methods: Educating the Vocational Technical Learner*	*3 S.H.*
OCED	*5517*	*Fundamentals of Vocational Technical Education*	*3 S.H.*
OCED	*5518*	*Management of the Vocational Technical Education Environment*	*3 S.H.*
OCED	*5523*	*Students with Special Needs in Vocational Technical Education*	*3 S.H.*
OCED	*5529*	*Competency Based Vocational Technical Curriculum Development*	*3 S.H.*
OCED	*5534*	*Supervised Practicum in Vocational Education*	*3 S.H.*
OCED	*5539*	*Implementing a Competency Based Curriculum*	*3 S.H.*
OCED	*5545*	*Computerized Vocational Technical Curriculum Management*	*3 S.H.*
OCED	*5546*	*Integrated Vocational Technical and Academic Curriculum*	*3 S.H.*
OCED	*5547*	*Brain Compatibility: Teaching and Learning*	*3 S.H.*
OCED	*5549*	*Assessment Standards and Evaluation*	*3 S.H.*
		Requirements Subtotal	*36 S.H.*
		**Trade Experience*	*0-12 S.H.*
		**Free Electives*	*0-24 S.H.*
		Total for Degree	***120 S.H.***

** A total of 24 semester hours is required between trade experience and free electives.*

Minor in English

Chairperson
Nancy Yee

Program Manager
Colin Bourn

Program Objectives

The minor in English allows students of other disciplines to add a concentration in literature to their plan of study. The minor provides a wide range of courses in literature that enhance a student's critical thinking and appreciation for the masters of the written word.

Program of Study

The Literature Concentration requires 18 semester hours of study. The following courses, offered in the evening and during summer sessions, satisfy the requirements as approved by the English Department:

Six hours selected from:

ENGL	*1999*	*Approaches to English Studies*	*3 S.H.*
ENGL	*2000*	*American Literature I*	*3 S.H.*
ENGL	*2100*	*American Literature II*	*3 S.H.*
ENGL	*2200*	*English Literature I*	*3 S.H.*
ENGL	*2210*	*English Literature II*	*3 S.H.*
ENGL	*2220*	*English Literature III*	*3 S.H.*
ENGL	*2400*	*World Literature I*	*3 S.H.*
ENGL	*2500*	*World Literature II*	*3 S.H.*

Twelve additional hours in electives selected from the remainder of the above and/or the following:

ENGL	*1999*	*Approaches to English Studies*	*3 S.H.*
ENGL	*2300*	*Literature and Disability*	*3 S.H.*
ENGL	*2620*	*Classical Mythology*	*3 S.H.*
ENGL	*2700*	*The Short Story*	*3 S.H.*
ENGL	*2750*	*Detective Fiction*	*3 S.H.*
ENGL	*2900*	*Children's Literature*	*3 S.H.*
ENGL	*3020*	*Modern Drama*	*3 S.H.*
ENGL	*3210*	*Major American Authors of 20th Century*	*3 S.H.*
ENGL	*3220*	*American Novel to 1950*	*3 S.H.*
ENGL	*4095*	*The Age of Dickens*	*3 S.H.*
ENGL	*4120*	*20th Century Irish Literature* **or**	*3 S.H.*
ENGL	*4140*	*Modern Poetry*	*3 S.H.*
ENGL	*4260*	*Journalist to Novelist*	*3 S.H.*
		Other English electives as approved by the English Department	
		Total for English Minor	***18 S.H.***

Minor in Psychology

Chairperson
John Hancock

Program Objective

The minor in Psychology is particularly useful for students who wish to complement their chosen major with psychology courses relevant to their area of study, as well as for students who wish to gain a general knowledge of Psychology for application to their own lives.

Program of Study

The minor is designed to enable the student:

- To understand and evaluate psychological research and literature
- To choose courses which complement and relate to the major field of study
- To explore a particular interest in Psychology in depth

Accordingly, the following course organization is required:

Group I

Two courses are required:

PSY	*1100*	*General Psychology (prerequisite not counted towards minor)*	
PSY	*2110*	*Introduction to Research Methods*	

Group II

At least one course is to be taken from **each** of any three of the four areas (Adaptive, Applied Studies, Basic Processes, and Developmental) described under the psychology major described in the section titled "Undergraduate Day Programs."

The remaining required courses may be selected from either the integrative courses (Group III) or any one of the above mentioned areas. Courses may also include:

PSY	*2200*	*Human Growth and Development*	
PSY	*2750*	*Tests and Measurements*	
		Total for Psychology Minor	***18 S.H.***

Certificate Programs in Business

Program Manager
Sylvia Charland

Certificate in Business

This Certificate in Business allows students with or without a college degree to learn the fundamentals of Business Administration. The credit earned for the certificate can be applied to an undergraduate degree in Business or can serve as prerequisites for an MBA or Management Science Program.

Requirements

BSAD	*2010*	*Introduction to Financial Reporting*	*3 S.H.*
BSAD	*2020*	*Introduction to Managerial Accounting*	*3 S.H.*
BSAD	*3200*	*Principles of Management*	*3 S.H.*
BSAD	*3300*	*Fundamentals of Marketing*	*3 S.H.*
BSAD	*3400*	*Basic Finance*	*3 S.H.*
BSAD	*3500*	*Business Law I*	*3 S.H.*
		Total for Certificate	***18 S.H.***

- At least three of the six courses must be completed at Fitchburg State College, including the last two courses
- Students must maintain a cumulative Grade Point Average of 2.0 or better

Office Administration Certificate

There are two phases of course work to attain the Certificate of Office Administration. Phase I can be completed independently of Phase II, but Phase II requires completion of Phase I.

Phase I

Requirements

CSC	*1050*	*Internet Communications*	*3 S.H.*
CSC	*1100*	*Computer Applications Programming I*	*3 S.H.*
CSC	*1200*	*Introduction to Microsoft Windows and Word Processing*	*3 S.H.*
BSAD	*3200*	*Principles of Management*	*3 S.H.*
BSAD	*2010*	*Introduction to Financial Reporting*	*3 S.H.*
ENGL	*1100*	*Writing I*	*3 S.H.*
		Subtotal Phase I	*18 S.H.*

Phase II

Requirements

CSC	*1300*	*Introduction to Spreadsheets and Databases*	*3 S.H.*
BSAD	*2020*	*Introduction to Managerial Accounting*	*3 S.H.*
BSAD	*3210*	*Human Resources Management*	*3 S.H.*
BSAD	*3500*	*Business Law I*	*3 S.H.*
		Subtotal Phase II	*12 S.H.*
		Total for Certificate	***30 S.H.***

- At least eight of the ten courses must be completed at Fitchburg State College, including the last two courses
- Students must maintain a cumulative GPA of 2.0 or better

Certificate Programs in Computer Science

Program Manager
Nadimpalli Mahadev

Computer Software Certificates

Certificate programs offer courses in personal computer operating systems and application programming. Each program is designed for those who work with personal computers in their daily lives either at home or at their workplace. In order to earn a certificate, students must maintain a cumulative average of 3.0 or better. A minimum of three courses must be completed at Fitchburg State College for all certificate programs. All other courses must be approved by the department.

Computer Use and Applications Certificate

CSC	*1050*	*Internet Communications*	*3 S.H.*
CSC	*1100*	*Computer Applications Programming I*	*3 S.H.*
CSC	*1200*	*Introduction to Microsoft Windows and Word Processing*	*3 S.H.*
CSC	*1300*	*Introduction to Spreadsheets and Databases*	*3 S.H.*
		Total for Certificate	***12 S.H.***

Programming in High Level Languages Certificate

CSC	*1500*	*Computer Science I*	*3 S.H.*
CSC	*1550*	*Computer Science II*	*3 S.H.*
CSC	*2500*	*Assembly Language Programming*	*3 S.H.*
CSC	*2560*	*Systems Programming*	*3 S.H.*
		Total for Certificate	***12 S.H.***

Programming Languages: COBOL Certificate

CSC	*1500*	*Computer Science I*	*3 S.H.*
CSC	*1550*	*Computer Science II*	*3 S.H.*
CSC	*2700*	*COBOL I*	*3 S.H.*
CSC	*2750*	*COBOL II*	*3 S.H.*
		Total for Certificate	***12 S.H.***

Web Development Certificate

CSC	*1050*	*Internet Communications*	*3 S.H.*
CSC	*1150*	*Basics of Web Design*	*3 S.H.*
CSC	*2150*	*Advanced Web Design with Scripting*	*3 S.H.*
		Total for Certificate	***9 S.H.***

Computer Hardware Certificate

Students who have a high school diploma and working knowledge of high school algebra are eligible to enroll in a sequence of courses leading to a certificate in computer hardware. In order to earn that certificate, students must maintain a cumulative average of 3.0 or better.

CSC	*1600*	*Introduction to Electronics*	*4 S.H.*
CSC	*1650*	*Digital Electronics*	*4 S.H.*
CSC	*2500*	*Assembly Language Programming*	*3 S.H.*
CSC	*2600*	*Computer Organization*	*4 S.H.*
CSC	*3600*	*Microprocessors*	*4 S.H.*
		Total for Certificate	***19 S.H.***

Certificate Program in Plastics Technology

Program Manager
Steven Therrien

In cooperation with NYPRO, Inc., the college offers a certificate program in Plastics Technology. Located in Clinton, MA, NYPRO is a world-class leader in injection molding. The program is open both to NYPRO employees and to any other student desiring to learn about injection molding and the manufacturing process involving conversion of raw material into finished parts and products. Course instructors, approved by Fitchburg State College, have extensive backgrounds in the plastics industry.

Requirements
Many of the courses include a laboratory component wherein students utilize actual injection mold machines. These activities are designed to enhance their learning experience.

The courses are held in the evenings each fall and spring semester in the modern classroom facilities of the NYPRO Institute in Clinton, MA. Students must maintain a cumulative GPA of 2.0 in order to earn the certificate.

Required Courses

PLAS	*5501*	*Statistical Process Control*	*3 S.H.*
PLAS	*5502*	*Injection Molding*	*3 S.H.*
PLAS	*5503*	*Industrial Electrical Maintenance*	*3 S.H.*
PLAS	*5504*	*Mold Design*	*3 S.H.*
PLAS	*5505*	*Principles of Supervision*	*3 S.H.*
PLAS	*5506*	*Blueprint Reading*	*3 S.H.*
PLAS	*5507*	*Polymeric Materials, Design and Application*	*3 S.H.*
PLAS	*5508*	*Hydraulics/Pneumatics*	*3 S.H.*
		Total for Certificate	***24 S.H.***

Approval Programs

Program Manager
Lloyd Harte

Vocational Technical Teacher Approval Program

Candidates seeking credentials as approved vocational technical instructors must successfully complete a thirty-six semester hour competency based training program. This training program provides the candidate with the curriculum, organizational and delivery skills, along with the methodological and pedagogical competencies needed to become an effective vocational technical instructor or pursue a baccalaureate program.

Part I

OCED	*5515*	*Teaching Methods: Instructional Strategies in Vocational Technical Education*	*3 S.H.*
OCED	*5516*	*Teaching Methods: Educating the Vocational Technical Learner*	*3 S.H.*
OCED	*5518*	*Management of Vocational Technical Education Environment*	*3 S.H.*
OCED	*5523*	*Students with Special Needs in Vocational Technical Education*	*3 S.H.*
OCED	*5529*	*Competency Based Vocational Technical Curriculum Development*	*3 S.H.*
OCED	*5534*	*Supervised Practicum in Vocational Education*	*3 S.H.*
OCED	*5539*	*Implementing a Competency Based Curriculum*	*3 S.H.*
OCED	*5547*	*Brain Compatibility: Teaching and Learning*	*3 S.H.*
		Subtotal Part I	*24 S.H.*

Part II

OCED	*5517*	*Fundamentals of Vocational Technical Education*	*3 S.H.*
OCED	*5545*	*Computerized Vocational Technical Curriculum Management*	*3 S.H.*
OCED	*5546*	*Integrated Vocational Technical and Academic Curriculum*	*3 S.H.*
OCED	*5549*	*Assessment Standards and Evaluation*	*3 S.H.*
		Subtotal Part II	*12 S.H.*
		Total for Program	***36 S.H.***

Undergraduate Course Descriptions

African-American Studies

Key to Course Offerings

Q: designates courses in the Quantitative Scientific Cluster

I: the Ideas and Events Cluster

B: the Human Behavior Cluster

L: the Literature, Language and Arts Cluster

C: Multicultural

IDIS: Interdisciplinary courses

Multicultural and interdisciplinary courses also fulfill a cluster designation.

* Asterisk indicates that the course may be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

Introduction to African-American Studies
AAST 1000 ***3 cr. 3 hr.***
This introductory course defines the origins and scope of African-American studies. It provides a survey of the social, economic, religious, and cultural expressions of African-Americans as they followed the tangled path from Africa through slavery, emancipation into the 20th century. I, L, C, IDIS

African-American History ▲
(See HIST 2300) I, C

Modern African History ▲
(See HIST 2930) I, C

History of African-American Women ▲
(See HIST 2520) I, L, C, IDIS

20th Century African-American Literature ▲
(See ENGL 2670) L, C

Other Voices ▲
(See ENGL 2650) L, C

Peoples and Cultures of Africa ▲
(See SOC 2510) B, C

History of Jazz ▲
(See MUSC 3800) L, C

African Jazz Dance ▲
(See PHED 1310)
I, L, C, IDIS

Independent Study in African-American Studies ▲
AAST 4900

Topics in African-American Studies ▲
AAST 5000

Art

Key to Course Offerings

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▲ Undergraduate Day School

● Undergraduate Evening School

Art Appreciation
ART 1100 ***3 cr. 3 hr.*** ▲ ●
The course presents a condensed survey of art history from prehistoric art to the present emphasizing the historical relationship of style and content. The Greek, Roman, Renaissance, Impressionist, and Modern art periods are emphasized. Women artists featured are Artemisia Gentileschi, Elizabeth Vigee-Lebrun, Mary Cassatt, Berthe Morisot, Georgia O'Keeffe, Elizabeth Murray, and many others. Minority artists included in the survey are Henry Ossawa Tanner, Diego Rivera, Jacob Lawrence, Romare Bearden, Martin Puryear, and many others. L, C

Survey of Art Forms I
ART 1150 ***3 cr. 3 hr.*** ▲
A study of architecture, sculpture, and painting from ancient Egyptian times to the Renaissance in Europe. Asian and other non-western or ethnographic cultures may be included. Emphasis is placed on understanding style in these various art forms. L, C

Survey of Art Forms II
ART 1160 ***3 cr. 3 hr.*** ▲
This survey of significant styles in the architecture and painting of the Western World depicts art from the year 1400 to the present with emphasis upon the special nature of the visual experience. L, C

Drawing
ART 1400 ***3 cr. 6 hr.*** ▲ ●
A studio course that introduces students to the practice of drawing with emphasis on the description of form through means of line, shade, and perspective. An investigation of a variety of media as well as of basic stylistic alternatives is encouraged. L, C

Introductory Painting
ART 1450 ***3 cr. 6 hr.*** ▲
The course studies the basic problems of form, color, and texture as understood in oil paintings. Consideration is also given to the nature and use of the oil painting materials themselves. L

Design
ART 1600 ***3 cr. 3 hr.*** ▲ ●
In this course the basic elements and principles of design are analyzed and applied to the creation of two-dimensional form. Topics covered include the effect of black and white, color, mixed media, scale, and texture on form. Lectures, slides, film, and visual presentations are included in the course program. L

Three-Dimensional Design
ART 1650 ***3 cr. 3 hr.*** ▲
This course explores three-dimensional design concepts as they have been applied historically. Topics covered include form, space, structure, scale, line, and color. Lectures, slides, film, and visual presentations are included in the course program. L

Contemporary Art
ART 1720 ***3 cr. 3 hr.*** ▲
The course presents a study of recent and contemporary trends in American and international art from 1945 to the present. The course consists of active student participation in slide discussions and museum trips. L, C

Sculpture I
ART 1840 ***3 cr. 6 hr.*** ▲
This introductory studio course encourages students to explore their ideas and to transform them into sculpture. Students combine creativity, exciting materials, and basic sculpture techniques to create unique works of art. L

Life Drawing
ART 2200 ***3 cr. 6 hr.*** ▲
The basic problems in form and anatomy are studied while drawing from the nude and costumed model. Various techniques and tools are explored, including a study of some of the great masters' drawings.

Intermediate Drawing
ART 2250 ***3 cr. 6 hr.*** ▲ ●
The course is an advanced study of pictorial technique in dry media, including but not limited to charcoal, pencil, conte, and pastel. Emphasis is placed on the developing of a student's own style through a variety of subjects and media. L
Prerequisite: ART 1400.

American Art
ART 2300 ***3 cr. 3 hr.*** ▲
The course is a survey of significant stylistic developments in visual arts from the earliest colonial times to the present. L

Sculpture II
****ART 2400*** ***3 cr. 6 hr.*** ▲
This advanced studio course is an expansion upon the basic principles of sculpture. Sculpture projects are geared toward the individual interests and requirements of the advanced student. L
Prerequisite: ART 1840.

Water-Based Media
ART 2450 ***3 cr. 4 hr.*** ▲ ●
The course explores the principles, materials, techniques, and history of transparent watercolor. This course deals primarily with transparent watercolors, but opaque aqueous media is touched upon. Basic knowledge and skills are developed so that the student may acquire rudiments for visual expression through this media. Although Basic Drawing is desirable, it is not required. L

Art of the Renaissance
ART 2550 ***3 cr. 3 hr.*** ▲
The course studies the development of painting, sculpture, and architecture in Italy from 1250 to 1550, the age of Michelangelo, and the Northern Europe Renaissance from 1400 to 1600. L

Advanced Painting
****ART 2600*** ***3 cr. 6 hr.*** ▲
The course provides an advanced study of pictorial techniques with an emphasis on personal expression in oil, acrylic, or water based media. The class may be repeated for credit. L
Prerequisite: ART 1450 or 2450.

Nineteenth Century Art
ART 2900 ***3 cr. 3 hr.*** ▲
This survey is comprised of art from French Neo-Classicism through Post-Impressionism, including the movements of Romanticism, Realism, and Impressionism. Emphasis is placed on French, British, and German art, with pertinent comparisons to American, Japanese, African, and ethnographic art. Students study women and minority artists including Berthe Morisot, Mary Cassatt, Rosa Bonheur, Suzanne Valadon, Henry Osawa Tanner, and others. L

Art Criticism
ART 3100 ***3 cr. 3 hr.*** ▲
The course is a study of the development of modern art criticism. The course begins by examining traditional art criticism as established by Panofsky, Woefflin, and others. It then concentrates on contemporary art and criticism, commencing with Clement Greenberg in the 1940s and concluding with Postmodern criticism of the 1980s and 1990s. L, IDIS
Prerequisite: one Art History course or Music 2000.

Early Twentieth Century Art
ART 3150 ***3 cr. 3 hr.*** ▲
The course is a survey of multicultural art from 1890 to 1945 in Europe and the United States. Periods covered include French Post Impressionism, Fauvism, and Cubism; German Expressionism; Spanish and French Surrealism; Early American Modernism, the Harlem Renaissance, and Regionalism. Students study women and minority artists including Suzanne Valadon, Kathe Kollwitz, Gabriel Munter, Frida Kahlo, Emily Carr, Georgia O'Keefe, Henry Ossawa Tanner, Jacob Lawrence, Romare Bearden, Horace Pippin, Bob Thompson, Diego Rivera, and others. L, C

History of Architecture
ART 3300 ***3 cr. 3 hr.*** ▲
This course presents a condensed survey of architectural history from ancient art to the present. Periods studied include Greek, Roman, Romanesque, Gothic, Renaissance, and Baroque architecture. Non-Western architecture includes the culture of Japan, Pre-Columbian Mexico, India, and Islam. I, L, IDIS, C

History of Modern Architecture
ART 3500 ***3 cr. 3 hr.*** ▲
A study of architecture of the nineteenth and twentieth centuries. Periods begin with the classical and federal works of Thomas Jefferson, continue through the various revivals of the nineteenth century, include Art Nouveau and the Chicago School, and conclude with the modern skyscrapers and post-modern architecture. Some concentration will be placed upon the works of Richardson, Sullivan, and Frank Lloyd Wright. L, IDIS

Women, Art, and Society
ART 3700 ***3 cr. 3 hr.*** ▲ ●
This course introduces the student to the place and roles of women in the world of visual and fine arts from the middle ages to the present. L, C

Independent Study in Art
ART 4901 ***1 cr. 1 hr.*** ▲ ●

Independent Study in Art
ART 4902 ***2 cr. 2 hr.*** ▲ ●

Independent Study in Art
ART 4903 ***3 cr. 3 hr.*** ▲ ●
The independent study is for selected students who have approval of both the department head and their advising Instructor.

Museum Internship
****ART 4950*** ***3 cr. 6 hr.*** ▲
In conjunction with Fitchburg State College, the Fitchburg Art Museum offers a multi-faceted learning experience coupled with practical application conducted in the Fitchburg Art Museum and in elementary school classrooms of Fitchburg and surrounding towns. Student Instructors are trained to give instructional lectures about the ancient cultures of Egypt, Mesopotamia, and Mesa Verde, to school children both in the Museum galleries and in the classroom.

Directed Study
ART 4975 ***1-6 cr.*** ▲ ●

Topics in Art
ART 5000 ***3 cr. 3 hr.*** ▲ ●
Courses having a more narrow focus or those taught on an irregular basis may be offered under the "Topics" heading. New courses may also be taught on an experimental basis under this title.

Biology

Key to Course Offerings

Q: designates courses in the Quantitative Scientific Cluster

I: the Ideas and Events Cluster

B: the Human Behavior Cluster

L: the Literature, Language and Arts Cluster

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* Asterisk indicates that the course may be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

Introduction to Life Science I

BIOL 1000 ***3 cr. 4 hr.*** ▲ ●

Offered in the fall semester for day students.
The course focuses on the history, philosophy, and content of biology as a science. Laboratory work includes experiences that emphasize problem solving by the student. Q

Introduction to Life Science II

BIOL 1100 ***3 cr. 4 hr.*** ▲ ●

Offered in the spring semester for day students.
Continuation of BIOL 1000. Q

Anatomy and Physiology I

BIOL 1200 ***4 cr. 5 hr.*** ▲ ●

Offered in the fall semester for day students.
The course explores the structure and function of the human organism on the cellular, tissue, organ, and system levels. Cellular metabolism, histology, and the following systems: skeletal, muscular, and nervous (including the special senses) are examined. The laboratory emphasizes both physiology and the dissection of preserved mammalian specimens. (Not open to students who have completed BIOL 1700, Human Biology or BIOL 2420, Human Physiology.) Q

Anatomy and Physiology II

BIOL 1300 ***4 cr. 5 hr.*** ▲ ●

Offered in the spring semester for day students.
This course is a continuation of BIOL 1200. The following systems are covered: circulatory, respiratory, digestive, excretory, endocrine, and reproductive.
(Not open to students who have completed BIOL 1700, Human Biology or BIOL 2420, Human Physiology.) Q

Adaptations

BIOL 1350 ***3 cr. 3 hr.*** ▲

The human organism is examined in terms of its adaptation to acute and chronic stress. Physiological responses to such stressors as exercise, heat, darkness, altitude, and nutrition are studied theoretically and in a laboratory setting. Q, IDIS

General Botany

****BIOL 1400*** ***3 cr. 4 hr.*** ▲ ●

The course focuses on the biology of bryophytes, ferns, gymnosperms, and angiosperms. The relationship of plant biology to agriculture and medicine is also discussed. The laboratory involves the study of live and preserved plant materials, simple physiological experiments, and a plant growth project. The class is not open for majors or minors in Biology. Q

Seminar in Modern Biology

****BIOL 1500*** ***1 cr. 1 hr.*** ▲

The seminar evolves around the discussion of current topics in basic and applied biological research based on readings of original scientific reports. Each student is expected to prepare one brief presentation on a topic of his or her choice.

Nutrition

BIOL 1650 ***3 cr. 3 hr.*** ▲ ●

The course involves an examination of nutrients in foods and their metabolic role in normal nutrition. Emphasis is on energy sources and utilization, vitamins and minerals, nutritional requirements in relation to the changing demands of life, and the effect of food handling and processing on the nutrient content of food. Course material is facilitated by lectures, discussions, and personal nutrition projects. Q

Human Biology

BIOL 1700 ***3 cr. 3 hr.*** ▲

Students learn the anatomy and physiology of the cells, tissues, organs, and organ systems of the human organism as well as their functional inter-relationships. (The class is not open to students who have completed BIOL 1200, 1300.) Q

General Biology I

BIOL 1800 ***4 cr. 6 hr.*** ▲ ●

Offered in the fall semester for day students.
The following topics are examined during the first semester: Cellular Biology, Information and Heredity, and Evolution. The second semester covers: Biological Diversity, Human Physiology, and Ecology. Laboratories emphasize hypothesis formation and testing as well as data gathering and analysis. Q

General Biology II

BIOL 1900 ***4 cr. 6 hr.*** ▲ ●

Offered in the spring semester for day students.
The class is a continuation of BIOL 1800. Q

Biology of Drugs

BIOL 2000 ***3 cr. 3 hr.*** ▲

A study of the biological effects of drugs at the cellular level. Emphasis is placed on the more popular psychoactive drugs.
Prerequisite: one year of Biology, Chemistry, or permission of Instructor.

Introductory Ecology

BIOL 2300 ***3 cr. 4 hr.*** ▲

Offered in the fall semester for day students.
The course is a survey of major ecological concepts and methodology as a basis for further investigations of the dynamic relationship between organisms and their environment. Field and laboratory work emphasize problem identification, formulation of hypotheses, data collection, and analysis and interpretation of results in terms of their biological implications.
Prerequisite: BIOL 1000, or 1100, or 1800, or 1900 or permission of Instructor.

Environmental Health

****BIOL 2400*** ***3 cr. 3 hr.*** ▲

Students conduct investigations into public health with emphasis on forms of life, chemical substances, environmental conditions, and other environmental forces that exert an influence on human health and well-being.
Prerequisite: BIOL 1100 or equivalent or permission of Instructor.

Human Physiology

BIOL 2420 ***3 cr. 3 hr.*** ▲

This course is an intensive study of the functional operation of human organ systems and the interrelationships of these systems. (Intended for students who are majoring in Biology or Clinical Lab Science.) Q

Histology

***BIOL 2500** **3 cr. 4 hr.** ▲

The course starts with a systematic survey of basic animal cell and tissue types, followed by in-depth microscopic study of the major organ systems. Practical work includes histological microtechnique on normal and pathological specimens.

Prerequisites: BIOL 1800 or BIOL 2420 or BIOL 1200, 1300.

Survey of Micro-organisms

BIOL 2700 **3 cr. 4 hr.** ▲

Offered in the spring semester for day students 3 hrs. lecture, 2 hrs. lab per week plus some additional time.

The course serves as an introduction to the biology of major groups of micro-organisms including bacteria, viruses, protozoa, and fungi. Emphasis is placed on their role in nature and their relationship to man as agents of infectious diseases. In the laboratory principles and practices of aseptic techniques and diagnostic identification and culture of disease entities are explored.

Prerequisites: BIOL 1300 and CHEM 1200 or permission of Instructor.

Genetics

BIOL 2800 **3 cr. 4 hr.** ▲ ●

Offered in the spring semester for day students.

Basic principles of biological information processing are examined including Mendelian inheritance, sex determination, chromosome cytogenetics, linkage, recombination and genetic mapping, mutagenesis, molecular genetics and gene-enzyme relationships, and quantitative inheritance. Laboratory work includes study of mutational effects and recombinational analysis in maize, Drosophila, bacteria, and viruses.

Prerequisite: 3 semester hours of Introductory Biology or equivalent.

Introduction to Secondary Teaching

BIOL 2860 **3 cr. 3 hr.** ▲

This course is required of all students entering a provisional certification program at the secondary level. It is a sophomore level course for full-time undergraduates and the first course taken by transfer and certification-only students. Its purpose is to provide a field experience for students intending to enter teacher preparation, so they can determine whether their decision is a plausible goal. The experience also exposes students to the range of challenges and problems in the contemporary secondary school. This course includes a pre-practicum requirement.

Marine Biology

***BIOL 2900** **3 cr. 4 hr.** ▲

Offered in the fall semester for day students.

In this course students investigate the distribution of the dominant animals and plants in a salt marsh, sand beach, tide pool, and rocky intertidal area. Data on physical and chemical factors of these habitats is correlated with the composition, behavior, and physiology of the flora and fauna of each habitat.

Prerequisites: BIOL 1800, 1900 or permission of Instructor.

Parasitology

***BIOL 3000** **3 cr. 4 hr.** ▲

The morphology and diagnostic identification of representative groups of parasitic protozoa, helminths, and arthropods are studied along with their functional life cycles and pathogenic relationships to animal and human hosts. Emphasis is placed on epidemiology, pathology, control, and treatment of important parasitic diseases.

Prerequisite: BIOL 1900.

Plant Physiology

***BIOL 3200** **3 cr. 4 hr.** ▲

Offered in the fall semester for day students.

Individually paced instruction is offered to study the integration of plant structure and function, emphasizing physiology of the integrated plant-water relations, transpiration and translocation, mineral nutrition, photosynthesis, respiration, growth hormones, differentiation, and morphogenesis.

Prerequisite: BIOL 1900 or BIOL 1400.

Cell Biology

BIOL 3250 **3 cr. 4 hr.** ▲

Offered in the fall semester for day students.

Cell and subcellular structure and function are covered in this course. Membranes, cell organelles, bioenergetics, photosynthesis, DNA and RNA structure, function and replication, protein synthesis, and gene regulation are the major areas considered. Laboratory includes absorption spectrophotometry, cell fractionation, organelle isolation, DNA isolation, and electrophoresis.

Prerequisites: BIOL 2800 and CHEM 2100 or permission of Instructor.

Entomology

***BIOL 3300** **3 cr. 4 hr.** ▲

Offered in the fall semester for day students.

Students learn anatomy, habits, life histories, and identification of insects and some related arthropods. Laboratory work includes preparation of a representative collection of adult and larval forms from terrestrial and aquatic environments with emphasis on techniques for identification of these forms.

Prerequisite: BIOL 1900 or permission of Instructor.

Limnology

***BIOL 3400** **3 cr. 4 hr.** ▲

Offered in the fall semester for day students.

The course offers a study of fresh waters and their inhabitants. Class work surveys protists, invertebrates, vertebrates, and plants collected from local waters and emphasizes their ecological interrelationships as determined by biological, physical, and chemical parameters.

Prerequisites: BIOL 1900 and BIOL 2300 or permission of Instructor.

Biochemistry

BIOL 3450 **4 cr. 6 hr.** ▲

Offered in the fall semester for day students.

The course is a study of the chemistry of biologically important molecules and macromolecules, including metabolism and regulation, water, proteins, enzymes, lipids, carbohydrates, and nucleic acids. Laboratory emphasizes manual and instrumented techniques for isolation, qualitative and quantitative analysis of macromolecules, and the kinetics and induction of enzymes.

Prerequisite: CHEM 2100 or permission of Instructor.

Plant Taxonomy

***BIOL 3500** **3 cr. 5 hr.** ▲

Offered in the fall semester for day students.

The course examines the classification of higher plants in accordance with evolutionary principles and trends. Laboratory is devoted to the techniques of plant identification with emphasis on the terminology and use of botanical keys. Field trips are taken for collecting representative elements of the local flora and preparation of an herbarium.

Prerequisite: BIOL 1800 or 1900 or permission of Instructor.

Developmental Biology

BIOL 3550 ***4 cr. 6 hr.*** ▲

Offered in the spring semester for day students.

The course examines a detailed survey of developing embryos from the fertilized egg through the various stages leading to the adult organism. Current theories regarding the molecular mechanisms underlying cell differentiation and other classic developmental processes are also themes of this course. Other topics covered in the survey include regeneration, metamorphosis, aging, and cancer. Laboratory involves the study of development in live sea urchins, birds, frogs, and ferns as well as work with prepared slides.

Prerequisites: BIOL 1800, BIOL 1900, BIOL 2800, BIOL 3250, or permission of Instructor.

Biology of Algae

****BIOL 3600*** ***3 cr. 4 hr.*** ▲

Students collect and identify common algae found in the New England area. Emphasis is on freshwater forms, but some study of marine algae is conducted as well. Distribution of algal species is correlated with physical and chemical factors in their habitats. Laboratory includes a study of algal physiology and reproduction as well as techniques for cultivation.

Prerequisite: BIOL 1400 or BIOL 1900.

Vertebrate Biology

BIOL 3800 ***4 cr. 6 hr.*** ▲

This course provides students with a thorough introduction into the biology of vertebrate animals. Lecture topics include anatomy, physiology, ecology, and evolution of the four classes of vertebrates. Laboratories emphasize the mastery of skills needed to collect and identify vertebrates.

General Microbiology

BIOL 3900 ***4 cr. 6 hr.*** ▲

Offered in the fall semester for day students.

The structure, nutrition, and growth of bacteria is examined in this course as well as characterization of representative bacteria, fungi, viruses and protozoa. Their genetic and metabolic peculiarities, immunological techniques, and the immune response in man is studied. Laboratory work includes aseptic technique, isolation and cultivation of microbes, staining techniques and diagnostic metabolic reactions.

Prerequisites: Organic Chemistry and BIOL 2800 or permission of Instructor.

Endocrinology

****BIOL 4250*** ***3 cr. 3 hr.*** ▲

The course covers chemical integration of physiological processes by hormones and related agents. Discussions include structure and function of vertebrate and other animal endocrine systems, neuroendocrine relationships, and other topics of current interest.

Molecular Biology

****BIOL 4500*** ***4 cr. 6 hr.*** ▲

The course offers studies of restriction enzymes, plasmids, gene cloning, recombinant DNA, DNA sequencing, oncogenes, and other topics of current interest. Laboratory work includes restriction enzyme digests and mapping, gene cloning, bacterial transformation, blue/white color selection, minipreps, and PCR.

Prerequisites: BIOL 2800 and BIOL 3250 or BIOL 3450.

Evolution

****BIOL 4600*** ***3 cr. 3 hr.*** ▲

The course is an introduction to the principles and processes governing the evolution of living organisms. Emphasis is placed on the ways by which various other biological disciplines relate to evolutionary studies. A survey of paleontological evidence is given to demonstrate how evolutionary principles have affected life.

Prerequisites: BIOL 1900, 2300, and 2800 or permission of Instructor.

Neurobiology

****BIOL 4800*** ***3 cr. 3 hr.*** ▲

A survey is conducted of neural activity and the neural bases of behavior as illustrated by simpler invertebrate and vertebrate nervous systems. Topics covered in the class include structure and function of neurons, neurodevelopment, cellular basis of behavior (sensory and motor systems), neuropharmacology, and neural plasticity. The class is facilitated by lectures and demonstrations.

Prerequisites: BIOL 1200/1300, or BIOL 1800/1900 and one year of Chemistry, or permission of Instructor.

Immunology

BIOL 4810 ***3 cr. 3 hr.*** ▲

Offered in the spring semester for day students.

The course consists of a survey of immune response, antibody formation and function, immunosuppression, blood group antigens and antibody-antigen reactions. The principles of complement activity, hypersensitivity, and autoallergic reactions are discussed.

Prerequisites: BIOL 2800, BIOL 3250, or permission of Instructor.

Biology Teaching Methods

BIOL 4850 ***3 cr. 3 hr.*** ▲

Methods and philosophical background for teaching of modern biological science are implemented in the course, which is a prerequisite for student teaching. Students who plan to student teach should consult Screening Policies for Student Teachers for other requirements that must be fulfilled prior to student teaching.

Prerequisites: junior or senior standing, EDUC 3010, PSY 2230, and permission of Instructor.

Independent Study

BIOL 4901-4903 ***1 to 3 credits*** ▲ ●

Offered in the fall and spring semesters for day students.

In the Independent Study participants fulfill laboratory or other independent research under the guidance and supervision of one or more faculty members. A comprehensive term paper and an oral presentation are required for successful completion of the project. Independent Study may be repeated for credit to a maximum of 9 semester hours.

Prerequisites: junior or senior standing, 15 credits of Biology and special permission of the Departmental Curriculum Committee.

Biology Practicum in a Secondary School I and II

BIOL 4860, 4870 ***6 cr. 6 hr.*** ▲

Students are assigned to cooperating secondary schools for a semester of student teaching.

Internship

BIOL 4950, 4960 ***3 or 6 cr.*** ▲

Offered in the fall and spring semester for day students.

The Internship involves off-campus laboratory or field experience in conjunction with established research programs at cooperating governmental, industrial, or private facilities. Supervision is shared by program directors and faculty members at Fitchburg State College. Assignments are contingent upon students' abilities and acceptance by the cooperating institution. One or two full days of work per week may be expected. A comprehensive term paper and an oral presentation are required after each semester of Internship work for successful completion of the project. An Internship course may be repeated for up to a maximum of 12 semester hours.

Prerequisites: junior or senior standing and approval of the Biology Department.

Directed Study

BIOL 4975 ***1-6 cr.***

Topics in Biology

****BIOL 5000*** ***3 cr. 3 hr.*** ▲ ●

Courses having a more narrow focus or those taught on an irregular basis may be offered under the "Topics" heading.

Prerequisites may be required. New courses may be taught on an experimental basis under this title.

Business Administration

Key to Course Offerings

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▲ Undergraduate Day School

● Undergraduate Evening School

Introduction to Computer Information Systems for Business

BSAD 1700 ***3 cr. 3 hr.*** ▲ ●

This course introduces the student to computer information science and its applications. The student develops literacy in the computer and its uses. The laboratory work includes an introduction to Word Processing, Spreadsheets, Databases, and the fundamentals of programming with BASIC. No previous knowledge of computers is required or presumed. Credit is not awarded for both BSAD 1700, Introduction to Computer Information Systems for Business and CSC 1100, Computer Applications. See Business Administration Department Chair for alternate course selections. Q

Prerequisite: Basic Math II.

Introduction to Business

BSAD 1850 ***3 cr. 3 hr.*** ▲ ●

Introduction to Business is a college-level survey course in business that explores the nature of the American free enterprise system and its business organizations. This course examines the role played by business in American society, as well as its purpose and responsibilities. Furthermore, it introduces the student to the practical operations that must exist if businesses are to create goods and services, and it highlights some of the major problems faced by managers in planning, organizing, directing, and controlling these areas. Therefore, this course is intended to give the student a broad overview of the functions, institutions, principles, and practices of business.

Introduction to Financial Reporting

BSAD 2010 ***3 cr. 3 hr.*** ▲ ●

This course provides an overview of financial accounting/reporting in its role as an information system within the socioeconomic environment of business. Financial reporting concepts and practices are presented from a decision perspective in which the content of financial statements and the analysis, interpretation, and application of this information in making rational business decisions are examined. Relationships between business events and elements of the financial statements are analyzed. Coverage of accounting procedures is presented to the extent that they are necessary to understand the substance of financial statement information. Internal control of accounting systems will be considered. A base of analytical tools will be provided for interpretation of financial information. Specific financial accounting issues related to current and long-term operational assets, current liabilities, debt instruments, and equity are discussed.

Prerequisites: sophomore status. BSAD 1700, MATH 0020.

Introduction to Managerial Accounting

BSAD 2020 ***3 cr. 3 hr.*** ▲ ●

This course stresses the usefulness of accounting data as it relates to the managerial decision making process relative to planning, control, and analysis. Among the multifaceted areas of study are cost volume, profit analysis, budgeting, performance analysis, and organizational planning and control.

Prerequisites: BSAD 2010, ECON 1200. (including all related prerequisites.)

Business Problem Solving with Microcomputers

BSAD 2700 ***3 cr. 3 hr.*** ▲ ●

This course uses the computer as a tool to solve business problems. Problem definition, analysis of problem, solution design, and implementation are phases leading toward the development of a business application system.

Prerequisite: BSAD 1700.

Financial Reporting Theory and Practice I (formerly Intermediate Accounting I)

BSAD 3010 ***3 cr. 3 hr.*** ▲ ●

This course is designed to provide a strong conceptual, analytical, and procedural foundation for the study of financial reporting and practice. The historical development of accounting thought and the role of financial accounting in today's economy are investigated. Socioeconomic, political, legal, and ethical influences on financial reporting are considered. A discussion of the following issues: procedures to record, summarize, and report results of business events, content and presentation of financial statements; and specific reporting issues related to cash and receivable. An overview of financial statement analysis is also presented. International issues are addressed as appropriate.

Prerequisites: BSAD 2020, MATH 2200, including all related prerequisites.

Financial Reporting Theory and Practice II (formerly Intermediate Accounting I)

BSAD 3020 ***3 cr. 3 hr.*** ▲ ●

In this course, in-depth discussion of financial reporting theory and practice is continued with respect to: inventories; concurrent operational assets; current and contingent liabilities; long-term debt; and owners' equity. Financial statement analysis of these financial statement elements is also continued. Ethical and international issues are addressed throughout the semester.

Prerequisite: BSAD 3010.

Cost Accounting

BSAD 3120 ***3 cr. 3 hr.*** ▲ ●

This course discusses job and process costing, managerial decision making using cost estimation and cost-volume-profit analysis, flexible budgeting, transfer pricing, and capital investment decisions.

Prerequisites: BSAD 2020, MATH 2200. (including all related prerequisites.)

Principles of Management

BSAD 3200 ***3 cr. 3 hr.*** ▲ ●

This is an introductory course in basic management concepts and practices. This course covers principles and techniques as they relate to planning, organizing, leading, and controlling business enterprises.

Human Resources Management

BSAD 3210 ***3 cr. 3 hr.*** ▲ ●

This is an introductory course which surveys human resources practices and procedures involved with recruiting, employment, training and development, job evaluation, compensation, health and safety, labor relations, and workplace law. Special topics of student interest are also covered.

Prerequisite: BSAD 3200.

Production Management

BSAD 3220 ***3 cr. 3 hr.*** ▲ ●

This course provides an overview of business operations. In light of selected production improvement techniques (automation, incentive wage system, etc.), students review the role of selected staff departments (purchasing, production planning, etc.) that support the line organization. In the process, students become familiar with a variety of control systems (quality control, inventory control, etc.), which are fundamental in any business—whether product or service oriented.

Prerequisite: BSAD 3200.

Fundamentals of Marketing

BSAD 3300 ***3 cr. 3 hr.*** ▲ ●

This course discusses the role of marketing in our economic and social structure. It includes the planning, distribution, pricing, and promotion of goods and services to consumer and industrial markets in the context of internal activities of the firm and environmental forces.

Consumer Behavior

BSAD 3310 ***3 cr. 3 hr.*** ▲ ●

This course familiarizes the student with the consumer decision making processes. It utilizes the concepts of the social and behavioral sciences in order to provide an understanding of consumer buying behavior.

Prerequisites: BSAD 2020, 3200, 3300, 3500.

Market Research

BSAD 3320 ***3 cr. 3 hr.*** ▲ ●

This course emphasizes the importance of research in marketing planning and decision making. Instruction includes the basics of scientific investigation, the search for information, sampling, data collection, data analysis, interpretation, and reporting.

Prerequisites: BSAD 2020, 3200, 3300, 3500, MATH 1800.

Advertising

BSAD 3330 ***3 cr. 3 hr.*** ▲ ●

In this course students become knowledgeable about the preparation and use of advertising. Topics include the functions of advertising, planning an advertising campaign, copy, artwork, and media selection.

Prerequisites: BSAD 2020, 3200, 3300, 3500.

Small Business Management

BSAD 3340 ***3 cr. 3 hr.*** ▲

This course provides the students with an understanding of the unique characteristics required of the successful small business entrepreneur and the specifics relative to the start-up, financing and management of a small business. Emphasis is on a full spectrum of business functions as applied to small firms, including proprietorships, partnerships, corporations, and franchised outlets.

Prerequisites: BSAD 3200, 3300.

TQM (Total Quality Management)

BSAD 3350 ***3 cr. 3 hr.*** ▲ ●

This course studies the concepts, practices, and methods of contemporary quality management in both manufacturing and service-related industries. Topics may include quality management, customer service, leadership, measuring quality, statistical process, and teamwork.

Prerequisite: BSAD 3200.

Basic Finance

BSAD 3400 ***3 cr. 3 hr.*** ▲ ●

This course studies the forms and sources of financing business firms, large and small, corporate and noncorporate. The emphasis is on financial planning and financial problem solving.

Prerequisite: BSAD 2020.

Investments

BSAD 3410 ***3 cr. 3 hr.*** ▲ ●

The course analyzes stocks, corporate and governmental bonds, and other investment media, and studies the secondary stock market mechanism. Students review various investment vehicles and security evolution. Research of individual companies and industries is required. The course is primarily facilitated by lectures and problem solving.

Prerequisites: BSAD 2020, 3200, 3300, 3400, 3500.

Real Estate Principles and Practices
BSAD 3440 ***3 cr. 3 hr.*** ▲ ●
Using a business perspective this course explores real estate use, ownership, and development as well as its social impact and business constraints. The effect of home ownership on executive transfers and company costs is examined. Current terminology in the field is defined, including property rights, ownership, financing, planning for the future, property evaluation, and property management.
Prerequisite: BSAD 3200.

Real Estate Investment and Management
BSAD 3460 ***3 cr. 3 hr.*** ▲ ●
The course looks at the business decisions involved in the investment, financing, and management of real estate. This course focuses on real estate as a popular investment vehicle because of the number of income-producing characteristics it possesses. Students learn the principles of cash flow, changing property values, equity investor, decision-making, risk and return, and market research in light of current real estate trends.
Prerequisites: BSAD 2020, 3200, 3300, 3400, 3500.

Business Law I
BSAD 3500 ***3 cr. 3 hr.*** ▲ ●
This course is an introduction to the study of business law, its nature and classification, the court systems, and their procedures. Contract law, the law of sales, and personal property are considered comprehensively.

Collective Bargaining Methods
****BSAD 3630*** ***3 cr. 3 hr.*** ▲
After a discussion of strategies and tactics used in labor negotiations, this course evolves from simulated contract negotiations. It gives the student first-hand knowledge of what goes on at the bargaining table.
Prerequisites: BSAD 3200, 3210, 4610.

Labor Organization and Trade Unionism
****BSAD 3640*** ***3 cr. 3 hr.*** ▲
This course provides the student with the knowledge of how unions are organized and operated in the nation. It includes a presentation of the development of craft and industrial unions and the anatomy of local and national labor organizations. The political and economic position of labor unions in the country today is analyzed.
Prerequisites: BSAD 2110, 3200, 3300, 3500.

Systems Analysis Methods
BSAD 3710 ***3 cr. 3 hr.*** ▲ ●
As an overview of the systems development life cycle, this course introduces the student to the fundamental concepts and techniques of systems analysis and design. Classical and structured methods of systems documentation are explored as well as information gathering and reporting activities. Finally, the transition from systems analysis to design is discussed.
Prerequisites: CSC 2700.

Computer Concepts and Programming Techniques
BSAD 3720 ***3 cr. 3 hr.*** ▲
This course is a survey of technical topics related to computer systems with emphasis on the relationship between computer architecture, system software, and applications software.
Prerequisites: BSAD 3710, CSC 2700.

Financial Reporting Theory and Practice III
BSAD 4010 ▲ ●
In this course, in-depth discussion of financial reporting theory and practices continued with respect to: inventories; concurrent operational assets; current and contingent liabilities; long-term debt; and owners' equity. Financial statement analysis of these financial statement elements is also continued. Ethical and international issues are addressed throughout the semester.
Prerequisite: BSAD 3020.

Consolidations and Mergers
BSAD 4100 ***3 cr. 3 hr.*** ▲ ●
This course includes accounting problems involved in the preparation of consolidated financial statements and in home and branch office relationships. The accounting concepts of purchasing and pooling of interests are stressed.
Prerequisites: BSAD 3020, including all related prerequisites.

International Accounting and Taxation
BSAD 4110 ***3 cr. 3 hr.*** ▲ ●
This course will provide an understanding of the International Accounting standards and the International Taxation rules within the accounting profession. U.S. accounting practices and foreign accounting practices in selected countries will be discussed. Taxation issues will center on U.S. taxes, both corporate and individual, for outbound and inbound transactions.
Prerequisites: BSAD 3020.

Individual Taxation
BSAD 4120 ***3 cr. 3 hr.*** ▲ ●
This course studies the Federal Income Tax Laws, as they apply to individuals, in compliance and tax planning opportunities.
Prerequisites: BSAD 3020. Financial Reporting Theory and Practice II (including all related prerequisites).

Corporate, Estate, and Gift Taxation (formerly Advanced Taxation)
BSAD 4130 ***3 cr. 3 hr.*** ▲
This course studies the Federal Income Tax Laws and regulations in both compliance and tax planning opportunities applicable to partnerships, corporations, fiduciaries, and gift and estate taxes.
Prerequisite: BSAD 4120.

Auditing
BSAD 4140 ***3 cr. 3 hr.*** ▲ ●
The basic concepts of auditing and control are examined in this course. It emphasizes internal control, audit problems, and professional responsibilities of the CPA to the auditing requirements.
Prerequisite: BSAD 4010.

Not For Profit Accounting
****BSAD 4160*** ***3 cr. 3 hr.*** ▲
This course examines the accounting and reporting principles, standards, and procedures as they apply to governmental and not-for-profit entities, such as governmental organizations, hospitals, colleges, and universities.
Prerequisites: BSAD 3020. including all related prerequisites.

Organizational Behavior and Theory
BSAD 4200 ***3 cr. 3 hr.*** ▲ ●
This course is a general descriptive and analytical study of organizations from the behavioral science point of view. It includes problems of motivation, leadership, morale, social structure, group networks, communications, hierarchy, and control in complex organizations. The interaction between technology and human behavior is discussed. Alternative theoretical models are considered.
Prerequisites: PSY 1100, BSAD 3200, 3300, 3500.

Social and Political Environment of Business
BSAD 4210 ***3 cr. 3 hr.*** ▲ ●
This course is a study of the evolution of American business in the context of its changing political and social environment. Analysis of the origins of the American business creed, the concept of social responsibility of business, and the expanding role of the corporation is included.
Prerequisites: ECON 1000, BSAD 3200, 3500.

Business Fluctuations and Forecasting
BSAD 4230 ***3 cr. 3 hr.*** ▲ ●
The analysis of public and business policies which are necessary as a result of business fluctuations within our capitalist free enterprise system often require technical forecasting. This course will emphasize this technical forecasting aspect.
Prerequisites: ECON 1200, MATH 1800.

Ethical Decisions in Business
BSAD 4250 ***3 cr. 3 hr.*** ▲ ●
This course is designed to explore, discuss, and analyze the values and methods that can be used by our future business managers to make ethical decisions in live business situations. It provides a basis for considering the type of corporate policy and environment essential for minimizing the conflict between "right" and "the end justifies the means."

Sales Management
BSAD 4300 ***3 cr. 3 hr.*** ▲ ●
This course enhances the students' understanding of and skills for managing the selling function. The emphasis of the course work is on personal selling as an element in the marketing mix.
Prerequisites: BSAD 2020, 3200, 3300, 3500.

Retail Marketing
BSAD 4310 ***3 cr. 3 hr.*** ▲ ●
This course introduces the student to the nature and scope of retail marketing and management. The course includes the structure of retailing, merchandising, buying, pricing, promotion, organization, as well as management of the retail firm.
Prerequisites: BSAD 2020, 3200, 3300, 3500.

Industrial Marketing
BSAD 4320 ***3 cr. 3 hr.*** ▲ ●
This course centers on the marketing of goods to industrial firms, governmental agencies, and other organizations included within the industrial market. The areas covered in the course include distribution channels, pricing policies, product planning, and market strategy.
Prerequisites: BSAD 2020, 3200, 3300, 3320, 3330, 3500.

International Marketing
BSAD 4330 ***3 cr. 3 hr.*** ▲ ●
This course concentrates on the marketing activities of firms operating in an international market. It provides the student with an understanding of the factors that influence the selling of products in international markets. The planning, organizing, and controlling of international marketing is explored along with its law, history, and economics.
Prerequisites: BSAD 3200, 3300, 3320, 3330, 3500.

Developing Marketing Strategies
BSAD 4340 ***3 cr. 3 hr.*** ▲ ●
Through the use of case studies and, where possible, cooperating businesses and nonprofit organizations, students identify pertinent marketing problems and opportunities, assess the organization's resources, and develop viable marketing programs. The course includes new product development and management strategies for effective marketing policies over the course of the entire product life cycle.
Prerequisites: BSAD 3200, 3300, 3320, 3330, 3500.

Financial Management of Corporations
BSAD 4440 ***3 cr. 3 hr.*** ▲ ●
This course covers the analysis and management of the flow of funds through an enterprise. Cash management, source, and application of funds, as well as term loans and types and sources of long term capital are examined. As an introduction to capital markets, the class explores capital budgeting, cost of capital, and financial structure.
Prerequisite: BSAD 3400.

Business Law II
BSAD 4500 ***3 cr. 3 hr.*** ▲ ●
This course is a continuation of Introduction to Business Law and deals with the law of agency, commercial paper, credit, and the various forms of business.
Prerequisite: BSAD 3500.

Labor Relations and Collective Bargaining I (Private Sector)
****BSAD 4610*** ***3 cr. 3 hr.*** ▲
The course provides an in-depth study of fundamental labor relations issues. Topics covered in the course are the development of federal labor policy, union organization, and union organizing, collective labor-contract negotiation, and contract enforcement. The use of strikes and lockouts as well as boycotts and picketing is explored along with multi-employer bargaining, arbitration, and grievance procedures. Further study includes an investigation of health, welfare, and safety concerns, equal employment opportunity, labor economics, state and federal labor legislation, and the role of government in labor disputes.
Prerequisite: BSAD 3210.

Labor Relations and Collective Bargaining II (Public Sector)
****BSAD 4620*** ***3 cr. 3 hr.*** ▲
This course is a continuation of BSAD 4610. A significant part of the second semester considers public sector collective bargaining and organizing (local, state, national, and within healthcare organizations).
Prerequisite: BSAD 4610.

Labor and Management Relations
****BSAD 4630*** ***3 cr. 3 hr.*** ▲
This course involves an investigation of the American Labor Movement. It is an analytical account of what labor is, why it behaves the way it does, and how it is managed. The course also covers the various organizational forms and models of labor unions.

Labor Law I
****BSAD 4640*** ***3 cr. 3 hr.*** ▲
The course relates basic labor issues to the legal process. The study begins with a brief history of U.S. labor in the courts. Students trace the development of national labor policy in the twentieth century as it is embodied in the National Labor Relations Act and in related federal law and regulation. The course then considers the role of the National Labor Relations Board and federal courts in determining whether labor organization conduct or employer conduct constitute unfair labor practices under the Act. The course relies mainly on primary materials, including both state and federal court decisions and administrative opinions.

Labor Law II
****BSAD 4650*** ***3 cr. 3 hr.*** ▲
This course is a continuation of BSAD 4640.
Prerequisite: BSAD 4640.

Structured Systems Analysis and Design
***BSAD 4700** **3 cr.** ▲ ●

This course covers the methodology of structured systems development with emphasis on the analysis and design phases of the system development cycle. A case study approach to advanced concepts, it is a course in problem solving wherein the student learns strategy and techniques for dealing with complexities in Information Systems Development.
Prerequisites: BSAD 3710, CSC 2700.

Data Base Management Systems
***BSAD 4720** **3 cr. 3 hr.** ▲ ●

This course provides an introduction to the concepts of data base processing with emphasis on application programming in a database environment. Physical and logical organization of data, data relationships, and operational requirements of a database management system are also discussed.
Prerequisites: BSAD 3710, CSC 2700.

Applied Software Development
BSAD 4730 **3 cr. 3 hr.** ▲

As the capstone course in the MIS concentration, this course requires the student to apply concepts, principles, and problem solving techniques, as well as strategies and tools learned in previous MIS and business courses to the development of a realistic computer-based information system of medium complexity.
Prerequisite: BSAD 3720.

International Business Management
BSAD 4880 **3 cr. 3 hr.** ▲

The course provides an analysis of the complexities of doing business overseas. Emphasis is on commerce, trade, and investments. Topics include cultural differences, market barriers, business practices, product/market strategies, distribution and organization for small firms and multinational corporations.
Prerequisite: senior status in Business Administration or permission of Department Chairperson.

Business Policy and Strategy
BSAD 4890 **3 cr. 3 hr.** ▲ ●

This course integrates all organic management functions. Cases are used as subjects for analysis and systematic decision making practice.
Prerequisite: senior status in Business Administration or permission of Department Chairperson.

Independent Study—Management
BSAD 4903 **3 cr.** ▲ ●

Independent Study—Accounting
BSAD 4913 **3 cr.** ▲ ●

Independent Study—Marketing
BSAD 4923 **3 cr.** ▲ ●

Independent Study-CIS
BSAD 4933 **3 cr.** ▲ ●

To study specific, advanced topics in the Business Administration area, students must have the approval of supervising instructor and the department.

Independent Study—Management
BSAD 4902 **2 cr.** ▲ ●

Independent Study—Accounting
BSAD 4914 **2 cr.** ▲ ●

Independent Study—Marketing
BSAD 4934 **2 cr.** ▲ ●

Independent Study—Management
BSAD 4915 **1 cr.** ▲ ●

Independent Study—Accounting
BSAD 4925 **1 cr.** ▲ ●

Independent Study—Marketing
BSAD 4935 **1 cr.** ▲ ●

Independent Study—CIS
BSAD 4945 **1 cr.** ▲ ●

Internship
BSAD 4910 **1 cr.** ▲ ●
BSAD 4920 **2 cr.** ▲ ●
BSAD 4930 **3 cr.** ▲ ●

The (1,2,3 credit) Business Laboratory Internships operate within the Business and Technology Training Center. The Business laboratory is a learning laboratory that allows students to work on various projects. Students will participate in developing and operating their own consulting firm in the laboratory. They will develop outreach to large, medium, and small businesses, organizations, institutions, and enterprises. Students may earn up to 12 credits throughout their four years of college.

BSAD 4950 **6 cr.** ▲ ●

This course is a part time (18 hr. week) internship in either the private or public sector. The purpose of the course is to allow the student the opportunity to synthesize the theoretical learning of the classroom with a practical work situation.
Prerequisite: approval by Internship Director.

Internship
BSAD 4970 **12 cr.** ▲ ●

This course is a full semester (36 hr. week) Internship in either the private or public sector. The purpose of the course is to allow the student the opportunity to synthesize the theoretical learning of the classroom with a practical work situation.
Prerequisite: approval by Internship Director.

Internal Departmental Practicums (Business Laboratories)
BSAD 4915, 4925, 4935 (see Independent Studies) ▲

The Business Administration Department offers students opportunities to receive up to six credits by working on actual business projects on campus and in the community.
Prerequisite: permission of Department Chairperson.

Directed Study
BSAD 4975 **1-6 cr.** ▲ ●

Topics in Business
BSAD 5000 **3 cr. 3 hr.** ▲ ●

Courses having a narrow focus or those taught on an irregular basis may be offered under the "Topics" heading. New courses may also be taught on an experimental basis under this title.

Chemistry

Key to Course Offerings

Q: designates courses in the Quantitative Scientific Cluster

I: the Ideas and Events Cluster

B: the Human Behavior Cluster

L: the Literature, Language and Arts Cluster

C: Multicultural

IDIS: Interdisciplinary courses

Multicultural and interdisciplinary courses also fulfill a cluster designation.

* Asterisk indicates that the course may be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

Industrial Chemistry

CHEM 1000 ***4 cr. 6 hr.*** ▲

This introduction to chemistry includes a study of the periodic table, atomic structure, electrochemistry, thermochemistry, chemical bonding, kinetics, oxidation-reduction, acids-bases, thermodynamics, and a brief introduction to organic compounds. Q

Prerequisite: MATH 1300.

Pre-Biochemistry I

CHEM 1100 ***4 cr. 5 hr.*** ▲ ●

This course provides the fundamentals of chemistry for non-science majors. Material is limited to basic concepts in general chemistry that are necessary for understanding the principles of organic and biochemistry. This course replaces Chemistry I and is required for Nursing Majors. Q

Elements of Human Biochemistry and Organic Chemistry

CHEM 1200 ***4 cr. 5 hr.*** ▲ ●

This course is a continuation of Pre-Biochemistry I or the equivalent. The course material also includes a study of organic chemistry and human biochemistry. This course replaces Chemistry II and is required for Nursing Majors. Q

Prerequisite: CHEM 1100.

General Chemistry I

CHEM 1300 ***4 cr. 6 hr.*** ▲ ●

The course explores the fundamental laws and theories of chemistry such as atomic structure, the periodic table, electrochemistry, descriptive inorganic chemistry, the gas laws, solutions, equilibrium calculations, and chemical bonding. Chemical calculations are emphasized. Q

General Chemistry II

CHEM 1400 ***4 cr. 6 hr.*** ▲ ●

This course is a continuation of General Chemistry I. Topics included are chemical, acid/base, and solubility equilibria, and chemical kinetics. Q

Prerequisite: CHEM 1300.

Organic Chemistry I and II

CHEM 2000 ***4 cr. 6 hr.*** ▲ ●

Properties of organic compounds are discussed in terms of their molecular structures and reaction mechanisms. This course is recommended for those who need for a solid theoretical foundation in chemistry, especially those contemplating graduate study in science or medicine. Q

Prerequisites: CHEM 1400.

Organic Chemistry II

CHEM 2100 ***4 cr. 6 hr.*** ▲ ●

This course is a continuation of CHEM 2000. Q

Prerequisite: CHEM 2000.

Analytical Chemistry I

CHEM 3000 ***4 cr. 6 hr.*** ▲

The course emphasizes theory and application of Quantitative Analysis. The lectures stress chemical equilibrium, solubility product, complexometric formation, oxidation-reduction, and stoichiometric calculations.

Prerequisites: CHEM 1300, 1400, 2000, 2100 or the equivalent.

Physical Chemistry I

CHEM 3200 ***4 cr. 6 hr.*** ▲

The course explores the underlying principles of chemistry from a physical chemistry standpoint. Topics of discussion include kinetic theory, theories of the structure of matter, theory of solutions, electrochemistry, thermodynamics, spectroscopy, and kinetics.

Prerequisite: CHEM 2100 or the equivalent.

Physical Chemistry II

CHEM 3300 ***4 cr. 6 hr.*** ▲

The course is a continuation of Physical Chemistry I.

Prerequisite: CHEM 3200.

Analytical Chemistry II

CHEM 3500 ***4 cr. 6 hr.*** ▲

The course studies Instrumental Analysis. Laboratory experiments include spectrophotometric, conductometric, potentiometric, and chromatographic analyses.

Prerequisites: CHEM 2100 and CHEM 3000 or the equivalent.

Advanced Topics

Student and faculty availability determine the following course offerings.

Advanced Inorganic Chemistry

****CHEM 3600*** ***3 cr. 3 hr.*** ▲

The course studies bonding theories, acid-base theories, reactions in non-aqueous solvents, complexation and chelation, reactivity, and physical measurements.

Prerequisite: CHEM 1400 or the equivalent.

Natural Products

****CHEM 4000*** ***3 cr. 3 hr.*** ▲

This course examines chemistry isolation, purification, and identification of pure compounds from a variety of naturally occurring substances. Special techniques are introduced whenever feasible.

Prerequisites: CHEM 2000 and 2100.

Biochemistry (See BIOL 3450).

CHEM 4100 ***4 cr. 6 hr.*** ▲

Prerequisite: CHEM 2100.

Polymer Chemistry

****CHEM 4200*** ***4 cr. 6 hr.*** ▲

This introduction to the synthesis and properties of macromolecules also serves as an application of chemical principles to this interesting and important group of materials.

Prerequisites: CHEM 2000 and 2100 or the equivalent.

Radiation Chemistry

CHEM 4300 ***4 cr. 4 hr.*** ▲

The fundamentals of radiation chemistry are explored, including radioactivity, atomic nuclei, nuclear reactions, decay systematics, reactors, and radiation detection and measurement. Emphasis is placed on the use of radioactive materials in chemical applications.

Prerequisites: CHEM 1400, PHYS 1400.

Forensic Chemistry

CHEM 4400 ***3 cr. 3 hr.*** ▲

This course studies forensic detection of crimes by examining physical evidence, such as hair, fibers, paint, drugs, DNA, fingerprints, firearms, and tool marks, as well as toxicology, arson, explosion, serology, rape victims, document, and voice examination.

Independent Study in Chemistry

CHEM 4903 ***1 to 3 cr.*** ▲

This independent study facilitates laboratory research under the guidance of the Chemistry staff.

Prerequisite: permission of the Instructor.

Internship
CHEM 4940 ***3 cr.*** ▲
The Internship gives the student an opportunity to work in an industrial, government, or private research laboratory to gain experience relevant to their major.

Internship
CHEM 4950 ***6 cr.*** ▲
The Internship gives the student an opportunity to work in an industrial, government, or private research laboratory to gain experience relevant to their major.

Directed Study
CHEM 4975 ***1-6 cr.*** ▲

Topics in Chemistry
CHEM 5000 ***3 cr. 3 hr.*** ▲
Courses having a more narrow focus or those taught on an irregular basis may be offered under the "Topics" heading. New courses may also be taught on an experimental basis under this title.

Clinical Laboratory Sciences

Key to Course Offerings
- * Asterisk indicates that the course may be offered less than once every two years.
- ▲ Undergraduate Day School
- ● Undergraduate Evening School

Introduction to Clinical Laboratory Sciences
CLS 1000 ***1 cr. 2 hr.*** ▲
An integrated lecture-laboratory course designed to acquaint the student with the role and duties of technologists, including employment opportunities and educational requirements for the profession. The Laboratory portion of the class includes: introduction to techniques in hematology, clinical chemistry, immunohematology, and clinical microbiology.

Clinical Laboratory Techniques
CLS 1400 ***3 cr. 5 hr.*** ▲
The course studies the clinical laboratory's role in assessing the kidney in health and disease. The microscopic and chemical analysis of urine is taught with emphasis on correlation of test data to disease diagnosis. Techniques and theory of phlebotomy studied.
Prerequisite: BIOL 2420 or the permission of Instructor.

Basic Hematology
CLS 2000 ***3 cr. 5 hr.*** ▲
This course is an introduction to the composition and formation of blood and blood cells. Laboratory exercises include routine procedures used in the hematology laboratory such as staining, cell counting and identification, selected manual methods and application of quality control procedures.
Prerequisite: BIOL 1800, CLS 2100 or permission of Instructor.

Basic Laboratory Skills
CLS 2100 ***4 cr. 6 hr.*** ▲
Through lecture and laboratory sessions, students will review basic principles of chemistry, laboratory math, and statistics as they learn to accurately measure, calculate, and quantify analytes. Quality control principles are also examined. The basic standards, theory and terminology associated with phlebotomy are introduced with laboratory practice in venipuncture and fingerstick techniques. Q
Prerequisite: MATH 1700: CHEM 1300 and 1400, or permission of instructor.

Professional Issues in Clinical Laboratory Science
CLS 3000 ***3 cr. 3 hr.*** ▲
The course explores economic, political, and social issues pertinent to health care delivery. Professional and personal ethics, interpersonal communication skills, interview techniques, career options for laboratory personnel, basic education, and management strategies are emphasized.
Prerequisite: CLS 1000 or permission of Instructor.

Human Biochemistry I
CLS 3100 ***4 cr. 6 hr.*** ▲
The study of the biochemical properties of carbohydrates, amino acids, proteins and lipids specifically related to the human body. Major metabolic pathways of glucose metabolism in the liver and body cells, mechanisms of enzyme action and bioenergetics will be discussed. Physiological topics related to the gastrointestinal tract, nutrition, liver, nerve and muscle function are discussed. Laboratory sessions complement lecture. Q
Prerequisite: CHEM 1300, 1400, 2000, and 2100.

Human Biochemistry II
CLS 3150 ***4 cr. 6 hr.*** ▲
Continuation of CLS 3100. Topics include the biochemical properties of RNA, DNA, fatty acid and amino acid metabolism. Physiological topics related to renal and endocrine function, skeletal and mineral metabolism, and water balance are discussed. Laboratory sessions complement lecture and include urinalysis. Q
Prerequisite: CLS 3100.

Immunoassay/Clinical Virology
CLS 3200 ***3 cr. 5 hr.*** ▲
The course studies in vitro antigen-antibody reactions and theory of serological reactions. The practical application of theory to clinical laboratory testing, enzyme assays, immunoelectrophoresis, agglutination and precipitation tests is studied and performed. An overview of viral structure, oncogenesis, and viral infections of man is given.
Prerequisite: BIOL 3900.

Parasitology/Mycology
CLS 3400 ***3 cr. 4 hr.*** ▲
Life cycles, identification, and clinical pathology of parasites in humans are studied in this course along with common mycotic infections of humans and methods of identification.
Prerequisite: BIOL 3900.

Clinical Hematology I
CLS 4000 ***4 cr. 6 hr.*** ▲
This course focuses on an examination of red cells and white cells and the laboratory testing used in the detection of anemias and leukemias. Students study the pathophysiology of bone marrow and peripheral blood while performing routine and special procedures used in the clinical Hematology lab.
Prerequisite: CLS 2000. Open to senior CLS majors only and permission of Instructor.

Clinical Hematology II
CLS 4050 ***3 cr. 5 hr.*** ▲
The course is a continuation of Hematology I with special emphasis on Hematology Instrumentation, Quality Control principles and Body Fluid Analysis. In addition, the course includes the study of Hemostasis and tests related to the detection of bleeding and thrombotic problems. A clinical practicum at an affiliated laboratory is performed at the conclusion of the course.
Prerequisite: CLS 4000. Open to senior CLS majors only and permission of Instructor.

Issues in Clinical Microbiology I
CLS 4100 ***2 cr. 2 hr.*** ▲
Students will perform an in-depth investigation of concepts, theories, or problems that are of importance to clinical microbiologists. Students will become skilled at searching the current literature and will enhance their verbal communication skills as they discuss their findings with the group.
Co-requisite: CLS 4400. S/U grading only.

Issues in Clinical Microbiology II
CLS 4150 ***2 cr. 2 hr.*** ▲
Continuation of CLS 4100.
Prerequisite: CLS 4100;
Co-requisite: CLS 4450. S/U grading only.

Clinical Chemistry I
CLS 4200 ***4 cr. 6 hr.*** ▲
The course provides a detailed study of the biochemical processes associated with health and disease. Students learn about the measurement of constituents in the blood and body fluids to monitor health and facilitate the diagnosis of disease. Emphasis is placed on interpretation, disease correlation, problem solving, and quantitative techniques.
Prerequisites: CLS 3100 and 3150. Open to senior CLS majors only and permission of Instructor.

Clinical Chemistry II
CLS 4250 ***4 cr. 6 hr.*** ▲
This course is a continuation of CLS 4200. A clinical practicum is performed at an affiliated laboratory at the conclusion of the class.
Prerequisites: CLS 4200. Open to senior CLS majors only and permission of Instructor.

Issues in Clinical Chemistry I
CLS 4300 ***2 cr. 2 hr.*** ▲
Students will perform an in-depth investigation of concepts, theories, or problems that are of importance to clinical chemists. Students will become skilled at searching the current literature and will enhance their verbal communication skills as they discuss their findings with the group.
Co-requisite: CLS 4200. S/U grading only.

Issues in Clinical Chemistry II
CLS 4350 ***2 cr. 2 hr.*** ▲
Continuation of CLS 4300.
Prerequisite: CLS 4300; Co-requisite: CLS 4250. S/U grading only.

Clinical Microbiology I
CLS 4400 ***3 cr. 5 hr.*** ▲
Students learn techniques for the isolation and identification of common human pathogenic bacteria and methods for susceptibility testing. Instruction includes techniques used in the diagnostic microbiology laboratory.
Prerequisites: BIOL 3900, CLS 3400. Open to senior CLS majors only and permission of Instructor.

Clinical Microbiology II
CLS 4450 ***3 cr. 5 hr.*** ▲
Techniques used to diagnose human infectious disease are covered in this class. The isolation and identification of uncommon human pathogenic bacteria is studied along with antibiotic structure and function. A clinical practicum is performed at affiliated laboratory at the conclusion of the class.
Prerequisites: CLS 4400. Open to senior CLS majors only and permission of Instructor.

Immunohematology I
CLS 4600 ***3 cr. 5 hr.*** ▲
The theory and laboratory techniques involved in blood banking are examined in this course. Areas of study include common blood types, screening and preparation of donors, crossmatching, antigen-antibody reactions, and serological procedures.
Prerequisites: BIOL 2800, 4810. Open to senior CLS majors only and permission of Instructor.

Immunohematology II
CLS 4650 ***1 cr. 2 hr.*** ▲
The course is a continuation of CLS 4600. It includes a short practicum in an affiliated blood bank laboratory.
Prerequisites: CLS 4600. Open to senior CLS majors only and permission of Instructor.

Clinical Correlations I
CLS 4800 ***1 cr. 2 hr.*** ▲
This Seminar is designed to demonstrate the interrelationships between clinical laboratory disciplines. A case study approach is utilized to help students integrate laboratory information.
Corerequisites: CLS 4000, 4200, 4400, 4600. Open to senior CLS majors only and permission of Instructor. S/U grading only.

Clinical Correlations II
CLS 4850 ***1 cr. 2 hr.*** ▲
The course is a continuation of CLS 4800 using the seminar and case study approach.
Corerequisites: CLS 4050, 4250, 4450, 4650. Open to senior CLS majors only and permission of Instructor. S/U grading only.

Independent Study
CLS 4901, 2, 3 ***1, 2, 3 cr.*** ▲
Open to students who have permission of supervising Instructor and department. The course of study, meetings, and project presentation are arranged upon approval.

Internship
CLS 4940 ▲

Directed Study
CLS 4975 ***1-6 cr.***

Topics in Medicine
****CLS 5000*** ***3 cr. 3 hr.*** ▲
Courses that have a more narrow focus or those taught on an irregular basis may be offered under the "Topics" heading. New courses may also be taught on an experimental basis under this title.

Communications/Media

Key to Course Offerings

Q: designates courses in the Quantitative Scientific Cluster

I: the Ideas and Events Cluster

B: the Human Behavior Cluster

L: the Literature, Language and Arts Cluster

C: Multicultural

IDIS: Interdisciplinary courses

Multicultural and interdisciplinary courses also fulfill a cluster designation.

* Asterisk indicates that the course may be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

Systems and Theories of Communication

COMM 1105 ***3 cr. 3 hr.*** ▲

An introductory course that explores the ways in which communication is studied and discussed in both academic and professional arenas. The course covers the process and social implications of communication. It examines the history and current structure of several media, including print, graphic design, photography, film, television, and sound recording. It also examines the technological and social systems that are associated with the field.

Message Design

COMM 1120 ***3 cr. 3 hr.*** ▲

The course introduces visual communication for the development of visual literacy. Students become involved with a variety of activities in previsualization, planning, designing, making, and evaluating visual messages. This course specifically relates to the communications concentrations taught in Phase II, including technical writing, television, photography, film, interactive, and graphic design.

Script Writing

COMM 2320 ***3 cr. 3 hr.*** ▲

Students are instructed in the basics of script writing for film, television, and multi-image productions, including preparation of proposals, treatments, storyboards, and scripts. Script formats covered in the class include documentary, educational, corporate, and dramatic film/video writing. See also ENGL 2320.

Color Theory

COMM 2330 ***3 cr. 3 hr.*** ▲

Students work on projects developed to enhance their understanding of the basic principles of color as they relate to graphics, film, photography and the moving image. Emphasis is given to the physical, psychological, and perceptual aspects of color. Students are responsible for all graphic supplies.

History of Photography

COMM 2400 ***3 cr. 3 hr.*** ▲

The course presents a survey of the development of photography to the present day. L

History of Film

COMM 2410 ***3 cr. 3 hr.*** ▲ ●

The class studies narrative and documentary films by American and foreign directors. Films are screened in each class and discussed. Discussion and lectures range from the artistic and cultural to the psychological and commercial aspects of films. Students write several critiques and a term paper. L

History of TV

****COMM 2420*** ***3 cr. 3 hr.*** ▲

The course provides a comprehensive analysis of television broadcasting from its inception to the present. Programming, social, and technological aspects of the medium are presented and examined in a lecture and seminar format. Particular emphasis is placed on television's sociological influence and impact on the communication process. I

History of Graphic Design

****COMM 2430*** ***3 cr. 3 hr.*** ▲

This course presents the history of typography and its pertinence to graphic design from the beginning of written history to the late 1980s. Emphasis is placed on various movement of avant garde typography of the early twentieth century and its influence on present day graphic design. L

Journalism

COMM 2800 ***3 cr. 3 hr.*** ▲

The course studies the press with emphasis on ethics in news, treatment of contemporary issues, and structuring the news story. Students write individualized assignments. (Credit is not given for both COMM 2800 and ENGL 2800.)

Prerequisites: ENGL 1100, ENGL 1200.

Multimedia Project Design

COMM 3304 ***3 cr. 3 hr.*** ▲

The course provides an introduction to the history, theory, and practice of designing communications for interactive/multimedia environments. Special attention is paid to flowcharting, branching, hierarchy structures, screen design, storyboards, scripting, and all aspects of user interface design. Students also consider the roles of learning theory and instructional design as they create design documents for course projects.

Prerequisite: one course in a concentration.

Multimedia Tools and Techniques

COMM 3305 ***3 cr. 3 hr.*** ▲

By using an interactive application students explore the use of digital audio, video, stills, presentation software, and elementary authoring. Students work with advanced features of the computer operating system and common software resources, such as databases and communications.

Prerequisite: COMM 3304.

Interactive Media

COMM 3306 ***3 cr. 3 hr.*** ▲

The course studies authoring tools and the logic structures that various design tools offer the producer/developer and the production team. Students integrate audio, still imagery, video, and hypertext into course projects.

Prerequisite: COMM 3305.

Multimedia Production

COMM 3307 ***3 cr. 3 hr.*** ▲

A study of advanced techniques of authoring, design, and production that students apply in sponsored projects. Working in groups of three or four, students simulate a professional design team's production regimen in order to complete an advanced multimedia production of professional portfolio quality.

Prerequisite: COMM 3306.

Multimedia Seminar

COMM 3308 ***3 cr. 3 hr.*** ▲

This seminar provides an opportunity to study advanced topics of multimedia design and development. Subjects covered in the seminar include design and application of game theory, computerized animation, morphing techniques, and virtual reality.

Prerequisite: permission of the Instructor.

Writing for Advertising

COMM 3430 ***3 cr. 3 hr.*** ▲

The course provides an introduction to the principles, strategies, and ethical issues in writing advertising for various media. Students create written copy for individual unified media campaigns.

Public Relations

COMM 3460 ***3 cr. 3 hr.*** ▲

The focus in this course is on the role of managed communications in public relations unique to industry, human services, and educational institutions. Definitions and concepts, history, potential careers, and research methods are examined.

Technical Documentation

COMM 3470 ***3 cr. 3 hr.*** ▲ ●

This course gives students the opportunity to study and write the basic forms of technical documentation found in business and industry, including end-user manuals and training guides. Examination of graphics, typography, and desktop publishing is considered as they apply to hardcopy production. (See also ENGL 3470.)

Introduction to Film and Video

COMM 3505 ***3 cr. 3 hr.*** ▲

This is the foundation course for the Video/Film concentration. Students are introduced to the basics of production and post-production in the two media. Topics include: understanding and using visual language; film and video camera operation; understanding the film and video production process; basic film and video editing; production crew structure; and interpersonal communication. Students shoot super 8 film and video tape and then edit both the film and video. Student are required to purchase film and video tape as well as pay for processing.

Intermediate Video Production

COMM 3520 ***3 cr. 3 hr.*** ▲

The course focuses on the development of the skills necessary for non-studio, on-location video production, including shooting and recording with color video equipment, location sound recording, location lighting, directing, electronic editing, and other post-production techniques. The student is required to purchase videotape.

Note: the department recommends that this course be taken at the same time as COMM 3580.

Prerequisite: COMM 3505.

Post-Production

COMM 3530 ***3 cr. 3 hr.*** ▲

This is an intensive course in film and video editing, as well as other post-production techniques. Course work includes practice in editing theory, sound effects recording, narration recording, and multi-track sound mixing. The course is based on the use of non-linear editors, the AVID 400 and 4000 Media Composers. Students log films and videos shot in previous classes on the AVID MediaLog, digitize their material to the AVID 400, and edit an off-line version of their program. They then re-digitize at high resolution on the AVID 4000, add titles, special effects, and mix sound. Finally, they print their completed program to tape. In addition, field trips to a commercial television post-production facility and to a film negative cutter are included. Students are required to provide their own video tapes.

Prerequisite: COMM 3540 or COMM 3740 or permission of the Instructor.

Advanced Video Production

COMM 3540 ***3 cr. 3 hr.*** ▲

An upper-level production oriented course provides the opportunity for students to produce work of professional quality. This course draws on the skills of all previous courses in production. Working in production groups, students write, shoot, and begin editing a high-quality video program. Students may choose documentary, experimental, corporate, or dramatic subjects for this production. The final edit is completed on non-linear AVID systems. Student are required to purchase all production materials.

Prerequisite: COMM 3520.

Production Management

COMM 3550 ***3 cr. 3 hr.*** ▲

The course provides an examination of the fundamentals of production management. Topics covered in the class are: production budgets, production scheduling, contracts and agreements, union regulations for actors and crew members, shooting permits, legal implications and financial structures.

Prerequisite: COMM 3520 or COMM 3720.

Studio Lighting and Production

COMM 3580 ***3 cr. 3 hr.*** ▲

The course provides an introduction to the techniques of lighting, both on location and in the studio. Topics covered in the class include: the use of lighting instruments; lighting control media and devices; location lighting techniques; studio lighting techniques; camera movement; composition; metering; the use of lenses; electrical and safety considerations; grip techniques and equipment. Students are required to purchase video tape.

Note: The department recommends that students take this course simultaneously with either COMM 3520 or COMM 3710.

Prerequisite: COMM 3505.

Photography I

COMM 3600 ***3 cr. 3 hr.*** ▲

The course introduces technical and aesthetic aspects of photography, such as exposure techniques, film, paper, and basic 35 mm camera work. Students are responsible for all paper, film, supplies, and mounting materials.

Photography II

COMM 3610 ***3 cr. 3 hr.*** ▲

The course is a continuation and refinement of the material covered in COMM 3600. Editing and sequencing along with filters, flash, fill-flash, and an introduction to the studio is covered.

Prerequisite: COMM 3600.

Photography III

COMM 3620 ***3 cr. 3 hr.*** ▲

The course introduces medium format photography. Lighting, portraiture, and commercial photography are explored in professionally designed studios. Students are responsible for all paper, film, and chrome processing.

Prerequisite: COMM 3610.

Large Format Photography

COMM 3630 ***3 cr. 3 hr.*** ▲

The course specializes in 4 x 5 photography and the use of the Zone System for exposure and development. Students are responsible for all paper and film supplies.

Prerequisite: COMM 3610.

Color Photography

COMM 3640 ***3 cr. 3 hr.*** ▲

The course introduces the basic theory of color photography. Printing is emphasized and all work is C-prints and chromes.

Prerequisite: COMM 3610.

Digital Photography
COMM 3645 ***3 cr. 3 hr.***
The course studies the fundamentals of digital image acquisition, scanning, image manipulation, and various output devices.
Prerequisite: COMM 3620 or 3640 or permission of Instructor.

Photo Management
COMM 3660 ***3 cr. 3 hr.***
The course studies photographic space design for private, commercial, and educational use. The class promotes an understanding of flow, function, equipment inventory, record keeping, and budget control.
Prerequisite: COMM 3610.

Photography Seminar
****COMM 3690*** ***3 cr. 3 hr.***
The seminar provides an opportunity for advanced study in the medium. Students are responsible for all paper and film supplies.
Prerequisites: COMM 3620, 3630, or 3640.

Intermediate Film Production
COMM 3710 ***3 cr. 3 hr.***
Intermediate Film Production introduces the tools of professional motion picture production. Topics include: 16mm sync camera operation, lens and filter differentiations, camera support, shooting tests of several film emulsions, film laboratory procedures, and use of sync sound equipment (Nagra and DAT). Students also learn location recording techniques, resolving to 16mm magnetic film, sound processing and synchronization of dailies on a flatbed editor.
Note: the department recommends that this course be taken at the same time as COMM 3580.
Prerequisite: COMM 3505.

Advanced Film Production
COMM 3720 ***3 cr. 3 hr.***
The course provides an advanced examination of professional 16mm production and post-production techniques. Topics covered in the class include: location shooting, sound recording and editing, film editing, negative matching, and interlock mixing. Students produce a professional 16mm film during the course. Film and processing costs are shared by all students.
Prerequisite: COMM 3710.

Directing Video/Film
****COMM 3730*** ***3 cr. 3 hr.***
This course examines the role of the director. Topics covered in the class include: script analysis and breakdowns, casting, blocking the camera and the actors, acting, and directing actors. The class focuses on the relationships between the director and producer, actor, writer, and editor as well as between the director and the cinematographer. The role of the assistant director is defined, and unions, talent agencies, schedule planning, and interpersonal communications are explored. Students are responsible for all materials.
Prerequisites: COMM 3510/3580 or 3710/ 3580.

Advanced Digital Production
COMM 3740 ***3 cr. 3 hr.***
In this course students may shoot 16mm film, video, or digital formats. Topics covered in the class include: techniques for shooting film for video; telecine techniques; resolving sound to video tape; time code fundamentals; editing video tape; understanding paintbox, digital effects, and other post-production techniques; and preparing to edit non-linear on the AVID system. Students are required to purchase film and video tape, as well as processing telecine services.
Prerequisite: COMM 3720 or 3540.

Graphic Design I
COMM 3810 ***3 cr. 3 hr.***
The course provides a basic introduction to the design process and the principles of design. Emphasis will be placed on problem solving and relating graphic design to communication. Students will be introduced to tools and equipment used in the field while working on layout and creative conceptualization. Students are responsible for all graphic supplies. (Credit is not given for both COMM 3810 and IT 2520.)

Graphic Design II
COMM 3820 ***3 cr. 3 hr.***
By using a problem solving approach to graphic design, students learn advanced graphic design principles. Students design and prepare highly finished comprehensive layouts. Projects include Marker Layout, Typography, Publication Design, Poster Design, and Corporate Identity. Problems are approached and solutions reached through teamwork. Projects are evaluated through joint critique. Students are responsible for all graphic supplies.
Prerequisite: COMM 3810.

Graphic Design III
COMM 3830 ***3 cr. 3 hr.***
By concentrating on technical and creative illustration, students have an opportunity for advanced study in graphic design. Students work in various media, including pen and ink, water color, marker, and colored pencil. Students are responsible for all illustration supplies.
Prerequisite: COMM 3820.

Graphic Management
COMM 3840 ***3 cr. 3 hr.***
The course studies the practices of advertising, sales, and marketing management in business, industry, and education. Emphasis is placed on the graphic designer in the role of creative art director, production manager, and designer illustrator. Topics of study include careers in graphic design and portfolio design and preparation.
Prerequisite: COMM 3820.

Publication Design
COMM 3850 ***3 cr. 3 hr.***
The course examines all aspects of publication design including designing with type, layout, combining photography and illustration with text, and print production. Students employ these skills in the design of newsletters, booklets, magazines, book and web page design. Portfolio quality pieces are produced in this advanced level course. Students are responsible for all graphic supplies.
Prerequisites: COMM 3820, 3890.

Writing for Business and Technology
COMM 3860 ***3 cr. 3 hr.***
The course is for students interested in writing in the business, industry, and management context. Topics covered in the class are: business correspondence, description of process and mechanisms, sets of instructions, proposals, abstracts, and reports. (Credit is not given for both COMM 3860 and ENGL 3860.)

Feature and Magazine Writing
COMM 3870 ***3 cr. 3 hr.***
The course examines writing feature articles for newspapers, magazines, and trade journals. (Credit is not given for both COMM 3870 and ENGL 3870.)

Typography

COMM 3880 ***3 cr. 3 hr.*** ▲

The course is designed to teach the fundamentals of typography. Students will create projects that will enhance their knowledge of professional layout and design programs while paying special attention to the subtleties of typography. Comparison will be made between preparing simple and complex files for print. Students are responsible for all graphic supplies.
Prerequisite: COMM 3820, 3890.

Computer Graphic Design

COMM 3890 ***3 cr. 3 hr.*** ▲

The course introduces the techniques and tools utilized in electronic media to create, manipulate, and organize the graphic image. This course demonstrates present and future applications of electronically generated images as they relate to the graphic designer. Students have hands-on experience with computer graphics and electronic publishing hardware and software. Students are responsible for all supplies.
Prerequisite: COMM 3820.

Graphic Design Photography

COMM 3900 ***3 cr. 3 hr.*** ▲

The course covers the commercial applications of photography, including product presentation, advertising, illustration, promotion, and publication photography. Students learn the role of the designer as a photographer who solves assigned problems using various techniques including digital photo and image manipulation. Students are responsible for all graphic supplies.
Prerequisites: COMM 3600, 3820.

Graphic Arts Production

COMM 3910 ***3 cr. 3 hr.*** ▲

The course examines the skills necessary to produce printed products. Students complete projects with electronic page layout programs, operate process cameras, prepare printing plates, precisely match ink colors, and print their projects. The very important relationship between the designer and the commercial printer is emphasized. (Credit is not given for both COMM 3910 and ITEC 1500.)
Prerequisite: COMM 3810 or permission of Instructor.

Advanced Computer Graphic Design

COMM 3920 ***3 cr. 3 hr.*** ▲

This is an advanced course in computer graphics covering application of electronically generated images as they relate to the graphic designer and the use of computer graphics work stations. Topics of study include: digital typography, illustration, electronic publishing, and digital photography. Students are responsible for all supplies.
Prerequisites: COMM 3820, 3890 or permission of the Instructor.

Human Communications Technology

COMM 4200 ***3 cr. 3 hr.*** ▲

The course provides for the analytic study of communication competencies needed in the individual, dyadic, and technological domains of information exchange. Students conduct an intrapersonal self-inventory to identify those beliefs, attitudes, and values which influence human interfacing with communication technologies. From this data, the development of skills for principled negotiation as a social process with a communication transaction serves as the foundation for the course.
Prerequisite: senior status.

Instructional Training Design

COMM 4210 ***3 cr. 3 hr.*** ▲

The course examines instructional communications as they apply to selected learning theories and various instructional approaches or methods. Strong emphasis is given to the application of learning theories to interactive technologies.
Prerequisite: junior status.

Organizational Communication

COMM 4220 ***3 cr. 3 hr.*** ▲

This course is designed to introduce students to contemporary concepts about organizational communication functions, the structure of organizational communication systems and organizational levels at which communication occurs. Student research and field study will consist of a communications audit of a selected organization and the analysis at the related human, hardware, and software interfacing.
Prerequisite: junior status.

Communications Law and Ethics

COMM 4230 ***3 cr. 3 hr.*** ▲

The course provides an introduction to communications law and media ethics that raise important issues for all students in the Communications/Media department. Topics discussed in the class are: copyright law, libel, censorship, cable and broadcast law, privacy, and the U.S. legal process.
Prerequisite: junior status.

Media Criticism

COMM 4240 ***3 cr. 3 hr.*** ▲

In the context of film and video work, students examine several approaches to evaluating media, including political, cultural, social, genre, and feminist.
Prerequisite: junior status.

Research Seminar

COMM 4250 ***3 cr. 3 hr.*** ▲

The seminar provides an opportunity to explore and learn various research methodologies, such as archival research, content analysis, and field study. The seminar is offered with various focuses, depending upon student and Instructor need and interest.
Prerequisite: junior status.

Advanced Professional Study

****COMM 4260*** ***3 cr. 3 hr.*** ▲

This interdisciplinary production course combines the talents of students from two or more concentrations. Students learn to work in a production team with a client to produce professional quality video, film, slide-tape, print, graphic, and/or interactive materials.
Prerequisite: completion of five courses within a concentration.

Pre-Press Production

COMM 4270 ***3 cr. 3 hr.*** ▲

Students need a bridge between design and the complex world of printing. File preparation for print reproduction will be stressed in this comprehensive, advanced level course. Printing terminology, job specification, file formatting, bid writing, color proofing, trouble shooting electronic documents, and mechanical press related problems are studied.
Prerequisite: COMM 3820, 3890.

Seminar in Communication Theory

COMM 4205 ***3 cr. 3 hr.*** ▲

The seminar provides detailed and extensive study of communication theories, particularly interpersonal and mass communication theories.

Internship

COMM 4880 ***12 cr. 36 hr.*** ▲ ●

This full semester on- or off-campus Internship requires fifteen thirty-six-hour weeks of work. Communications/Media majors apply their knowledge and skills to the practical solution of communications problems.

Prerequisites: completion of all preceding Communications/Media Phases with a cumulative Communications/Media Grade Point Average of 2.5 or better at the time the Application for Internship is due. Approval by Communications/Media Interview Committee and Department Chairperson.

Independent Study

COMM 4901 ***1 cr. 3 hr.*** ▲
COMM 4902 ***2 cr. 6 hr.*** ▲
COMM 4903 ***3 cr. 9 hr.*** ▲
COMM 4906 ***6 cr. 18 hr.*** ▲

The Independent Study provides an opportunity for highly self-motivated students to explore areas of Communications/Media not provided within the departmental curriculum. Research methodology is to be used and a written monograph is to be presented to the faculty sponsor. Approval of a faculty sponsor, consent of the advisor, and permission of the Chairperson is required.

Field Study

COMM 4940 ***3 cr. 9 hr.*** ▲
COMM 4950 ***6 cr. 18 hr.*** ▲

The Field Study provides an experience that permits students to develop the knowledge and skills acquired in the classroom. A portfolio of the work completed is to be presented to the faculty sponsor. Approval of a faculty sponsor, sanction of a site supervisor, consent of the advisor, and permission of the Chairperson is required.

Directed Study

COMM 4975 ***1-6 cr.*** ▲

Topics in Communications/Media

COMM 5000 ***3 cr. 3 hr.*** ▲

This course provides the opportunity for students and faculty to explore topics of current interest to them. The content of this course varies from semester to semester. It is designed to allow the teaching of material not normally covered in any other course or to present a new course on a trial basis. The content may be theoretical or drawn from one of the concentrations.

Computer Information Systems

See course offerings under Business or Computer Science.

Computer Science

Key to Course Offerings

Q: designates courses in the Quantitative Scientific Cluster

I: the Ideas and Events Cluster

B: the Human Behavior Cluster

L: the Literature, Language and Arts Cluster

C: Multicultural

IDIS: Interdisciplinary courses

Multicultural and interdisciplinary courses also fulfill a cluster designation.

* Asterisk indicates that the course may be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

Introduction to Programming (Visual Basic)

CSC 1000 ***3 cr. 3 hr.*** ▲ ●

This course provides an opportunity to learn a higher level programming language, to gain experience in the design, coding and utilization of computer programs, and to gain insight into operating a computer. Topics covered in the class include: the syntax and semantics of a higher level programming language; the design, coding, testing and application cycle; application areas; and man-machine interrelationships. Several programming assignments are included. Q

Prerequisite: a working knowledge of high school algebra. (CSC 1000 does not carry credit toward a Computer Science major or a Computer Science minor.)

Internet Communications

CSC 1050 ***3 cr. 3 hr.*** ▲ ●

The Internet plays a crucial role in the information revolution. It is used increasingly for personal and business communications, for commerce and exchange of ideas, and as a source of information and entertainment. This course introduces the student to various components of the Internet such as the web, email, discussion groups, ftp, telnet etc. Tools and techniques for efficient web browsing will be taught. Security issues involved in using the Internet will be discussed. Students will design simple web pages and publish them on the Internet.

(CSC 1050 does not carry credit toward a Computer Science major or a Computer Science minor.)

Computer Applications Programming I

CSC 1100 ***3 cr. 3 hr.*** ▲ ●

This is an introductory level study of the computer and application programming techniques. The course introduces an integrated package of programs, including Spreadsheet, Database, and Word Processor, which have direct applications within each student's specific discipline. The course concentrates on the use of each individual application as a stand-alone tool. The student learns how to construct a document, build a database, and formulate a spreadsheet using the proper tool for each exercise. Q

Prerequisite: a working knowledge of high school algebra. (CSC 1100 does not carry credit toward a Computer Science major or a Computer Science minor.)

Basics of Web Design

CSC 1150 ***3 cr. 3 hr.*** ●

This course is about creating web pages using the latest version of HTML. The course covers the basics of HTML code. Students will learn to work directly with HTML tags to create forms, frames and cascading sheets, and to embed music and other multimedia.

Prerequisite: CSC 1050 or equivalent knowledge. (CSC 1150 does not carry credit toward a Computer Science major or a Computer Science minor)

Introduction to Windows and Word-processing

CSC 1200 ▲ ●

This course introduces the student to personal computers using Microsoft Windows. Students also learn word processing. The student becomes proficient in the use of Microsoft Windows and advanced concepts in word processing. *(CSC 1200 does not carry credit towards a computer science major or a computer science minor.)*

Introduction to Spreadsheets and Databases

CSC 1300 ***3 cr. 3 hr.*** ▲ ●

This course introduces the student to spreadsheets/databases for Windows. The student becomes proficient in the use of spreadsheets/databases as well as in the use of built-in functions for business, family, etc. Q

Prerequisite: college level math skills are a must in this course. (CSC 1300 does not carry credit toward a Computer Science major or a Computer Science minor.) (Math/Science, Quantitative.)

Computer Science I

CSC 1500 ***3 cr. 3 hr.*** ▲ ●

This course introduces Computer Science by using a high-level programming language. Students will be taught to design programs and implement them using object-oriented programming techniques. This course provides a solid background for further studies in Computer Science by preparing students to enroll in the more specialized high-level software courses. Q

Computer Science II

CSC 1550 ***3 cr. 3 hr.*** ▲ ●

This course builds on the concepts covered in Computer Science I. Topics covered include inheritance, polymorphism and recursion. Various data structures such as lists, queues and stacks are covered. Software development processes including stepwise refinement, separation of problem specification and implementation, and separately compiled modules are included. Q

Prerequisite: CSC 1500

Introduction to Electronics

CSC 1600 ***4 cr. 5 hr.*** ▲ ●

Offered in the spring semester for day students.

This course provides an introduction to analog circuits and modern solid state devices, including diode rectifiers, power supply design, OP amps, and oscillator circuits. Extensive laboratory work illustrates the operation and behavior of circuits, as well as the use of modern laboratory test equipment. Topics covered in the class include: basic circuit analysis, semiconductor principles, diodes, power supply design, bipolar and FET transistor applications, OP AMP circuits and applications, oscillators, and linear integrated circuits. Weekly laboratory sessions included.

Digital Electronics

CSC 1650 ***4 cr. 5 hr.*** ▲ ●

Offered in the fall semester for day students.

A study of the design and application of both asynchronous and synchronous electronic logic circuits including: Boolean, Karnaugh and state variable design techniques. Counters, registers, serial and parallel adders, and arithmetic units are included. Topics covered are: Boolean algebra, algebraic simplifications, Karnaugh mapping, Quine McCluskey method, combinational logic circuits, sequential logic circuits, comparison of TTL, MOS, ECL logic families, the arithmetic unit, coding and decoding, parity detection, and generators and multiplexers. Extensive laboratory work supplements the topics studied.

Prerequisite: CSC 1600.

Computer Graphics for Non-Majors

CSC 2000 ***3 cr. 3 hr.*** ▲

This course is designed to teach non-computer science majors the fundamentals of graphics programming using Turbo Pascal or Basic on the AT & T computer. Students write programs demonstrating mastery of the following graphics techniques: rotation, scaling, translation, clipping, windowing, graphing, and animation.

Prerequisites: CSC 1000 or CSC 1500 or permission of Instructor.

Advanced Web Design

CSC 2150 ***3 cr. 3 hr.*** ▲

Assembly Language Programming

CSC 2500 ***3 cr. 3 hr.*** ▲ ●

Offered in the fall semester for day students.

This introduction to the fundamental operations of the computer system at the assembly language level is recommended for students who desire an in-depth knowledge of the internal functioning of a modern computer. This course helps advance a student's programming skills. Topics examined include: numerical and character representations, loading routines, console operations, mnemonic operations, instruction formats, location counters, addressing modes, parameter passing, subroutine linkage, macros, conditional assembly, device controllers, character-to-integer conversions, and simple data structure realizations on the Intel 8086 processor. Q

Prerequisite: CSC 1550 or permission of Instructor.

Systems Programming

CSC 2560 ***3 cr. 3 hr.*** ▲ ●

Offered in the spring semester for day students.

This course provides the student with the fundamentals of structured programming at the systems level. UNIX™ is used as a base for the course, allowing the student to become familiar with a well-known, flexible, industry-standard operating system. A structured approach is stressed in all assignments, and emphasis is given to both intermediate and low-level programming tasks. Students obtain a thorough knowledge of the C language, comfort in using the UNIX™ operating system, a good understanding of intermediate data structures, and an appreciation for a systems approach to low-level programming tasks. Q

Prerequisite: CSC 2500 or equivalent.

Computer Organization

CSC 2600 ***4 cr. 5 hr.*** ▲ ●

The purpose of this course is to provide a thorough discussion of the fundamentals of computer organization and architecture, and to relate these to contemporary computer design issues. After a brief review of the basic digital components used, the steps that a designer would go through in the design of an elementary systems are covered followed by a discussion of the organization and design of the central processing unit (CPU) and various control system implementations. The input/output and memory subsystems are included as is a brief discussion of multiprocessing systems, pipelining, and virtual memory.

Prerequisites: CSC 1650, CSC 2500.

COBOL-I

CSC 2700 ***3 cr. 3 hr.*** ▲ ●

The course introduces the COBOL programming language and top-down program design by using the ideas of structured programming. Students design and code COBOL programs for the solution of problems requiring multiple fixed and/or variable length records for a sequential file. Some of the techniques used to process business data are covered. Other topics studied in the course include: identification, environment, data and format design, input data, record and file design, top-down program design, arithmetic and logical operations, sequential disk files, and table handling.

Prerequisite: CSC 1550.

COBOL-II

CSC 2750 ***3 cr. 3 hr.*** ▲ ●

The course studies the facility of COBOL for table and file handling with particular attention to indexed sequential files and variable length records. A substantial number of programming projects are included in the course. Topics covered include: sorting and merging files, table handling, variable length records, indexed sequential access methods, file creation, and updating and reporting.

Prerequisite: CSC 2700 or CSC 1550.

Advanced Web Design with Scripting

CSC 2800 ***3 cr. 3 hr.*** ●

Scripting is used to add programming capabilities to HTML code to create dynamic and more interactive web pages. Students will learn JavaScript as a scripting tool for creating interactive and dynamic web pages. Operators, statements, functions, event handling and objects of this programming language will be studied. Students will learn the document, form, and window objects in detail.

Prerequisite: CSC 1150 or equivalent knowledge or CSC 1550.

Interactive Computer Graphics I

CSC 3000 ***3 cr. 3 hr.*** ▲ ●

This is a course in two-dimensional graphics software engineering in which algorithms for picture generation and manipulation are presented in class and implemented by the student. Topics covered in the class include: line and circle generation, transformations, clipping and windowing, display files, and interactive methods and devices.

Prerequisites: CSC 1550, CSC 2560, MATH 2400.

Operating Systems

CSC 3100 ***3 cr. 3 hr.*** ▲ ●

Offered in the spring semester.

This course examines the internal structure and operation of operating systems with an emphasis on their design criteria and approaches. Topics covered in the class include: process management, inter-process communication, concurrent processes, scheduling, deadlock memory management and files systems. A working knowledge of at least one higher level systems language and computer data structures is assumed.

Prerequisites: CSC 2560, CSC 2600.

Programming Languages

CSC 3200 ***3 cr. 3 hr.*** ▲ ●

The course studies algorithmic and symbolic programming languages. Languages are selected for study based on their current/predicted importance as well as their features that support fundamental aspects of software engineering. Q

Prerequisites: CSC 2500, CSC 2560.

Simulation I

****CSC 3300*** ***3 cr. 3 hr.*** ▲

The purpose of this course is to introduce the art and techniques of system simulation. A higher-level programming language (FORTRAN and/or PASCAL) and a discrete system simulation language (GPSS) are used in the course. Topics covered in the class include: theory of system simulation, design of system simulation models, and Monte Carlo technique. Several programming assignments are required.

Prerequisites: CSC 2560, MATH 2400.

Data Communications/Networking

CSC 3400 ***3 cr. 3 hr.*** ▲ ●

This course examines local area network (LAN) technology and architecture through basic data communications principles, newly developed concepts, and practical hands-on experience. All networking fundamentals are presented based on the modular approach of the ISO standards. Network models studied include: LAN, the high speed local network (HSLN), and the digital switch/digital private branch exchange (PBX). Students gain experience through assigned projects using modems, AT&T's Information System Network (ISN) and both DOS and UNIX™ computer systems. Protocol development and complex mesh networks are also studied in the course.

Prerequisites: CSC 2500, CSC 2560, CSC 2600.

Local Area Networks

CSC 3450 ***3 cr. 3 hr.*** ▲ ●

This course develops both the hardware and software fundamentals used in local area networks (LANS) including the physical interface, cabling, communication protocols, as well as network services and network standards. This applied, hands-on course will examine topics such as data connectivity, interoperability, and network operating systems from a practical approach with the student setting up different network configurations in the laboratory. To allow for distributive processes as well as wide area accessibility, all networks developed by students will include TCP/IP protocols and will be interfaced with the internet.

Prerequisite: CSC 2500

Object Oriented Programming

CSC 3500 ***3 cr. 3 hr.*** ▲ ●

This course covers object oriented programming principles in detail. The terminology of object oriented design principles is introduced and the way in which these concepts are implemented by an OOP language is discussed. Topics covered include an overview of OOP, classes, function and operator overloading, inheritance, polymorphism, virtual functions, file manipulation, templates exception handling. Q

Prerequisite: CSC 2560

Windows Programming

CSC 3550 ***3 cr. 3 hr.*** ▲ ●

This course covers the basics of Windows programming. Students learn to program under Windows in C using raw Windows application programming interface (API) calls. Topics covered include: Basics of Windows programming, windows management, painting with text, GDI graphics, bitmaps and fonts, keyboard and mouse input windows timers, child window controls, windows resources, menus, accelerators, dialog boxes.

Prerequisites: CSC 2560

Microprocessors

CSC 3600 ***4 cr. 5 hr.*** ▲ ●

Offered in the fall semester for day students.
The course provides a detailed study of the microprocessor and its applications. Emphasis is placed on a current microprocessor, its hardware and software and its associated family of integrated circuits. Students design a microprocessor system, configuring the random access memory, the read-only memory, and peripheral devices using peripheral interface adapters. Students reinforce theory with extensive laboratory work.
Prerequisite: CSC 2600.

Algorithms and Data Structures

CSC 3700 ***3 cr. 3 hr.*** ▲ ●

Offered in the spring semester.
This course explores data structures and algorithms in the context of problem solving by use of computers. Data structures are presented as objects of abstract data types on which certain operations can be performed. The data structures covered include: lists, stacks, queues, mappings, priority queues, trees, balanced trees, graphs, and dictionaries. Different programming techniques, such as divide and conquer, dynamic programming, and backtracking, are presented and important graph algorithms are discussed.
Prerequisites: CSC 2560 with MATH 3100 recommended.

Numerical Methods for Digital Computation

****CSC 3900*** ***3 cr. 3 hr.*** ▲

This course provides the student with a study of basic algorithms used in scientific computer work and affords an opportunity to apply related programming techniques. The emphasis is placed upon building algorithms for the solution of numerical problems. The sensitivity of these algorithms to numerical errors and the efficiency and accuracy of these algorithms on various computers is also stressed. The student is expected to complete a number of computational projects using suitable procedure-oriented programming languages.
Prerequisites: MATH 2400, CSC 1550.

Compiler Construction

CSC 4200 ***3 cr. 3 hr.*** ▲

The course studies the techniques involved in the analysis of source language code and the generation of efficient object code. The focus is more on the front end of the compiler (analyzer) than it is on the tail end (or generator). By working in small project teams students modify an existing compiler. Topics covered in the class include: language definition; lexical, syntactic, and semantic analysis; and code generation. Several programming assignments are included.
Prerequisites: CSC 2500, CSC 2600 with CSC 3200 recommended.

Software Design

****CSC 4400*** ***3 cr. 3 hr.*** ▲ ●

This course provides the student with an opportunity to obtain practical experience in developing and implementing software systems. Students work in project teams and apply principles of structured design and coding toward the solution of assigned problem(s). The software projects undertaken in this course vary, therefore it is recommended that interested students consult with the course instructor prior to enrolling.
Prerequisites: completion of Computer Science core courses and permission of Instructor.

Database Design

CSC 4500 ***3 cr. 3 hr.*** ▲ ●

This course presents the basic concepts of a database system. The three distinct approaches to the design of such a system, namely, relational, hierarchical, and networked, are studied in detail. The problems of security and integrity in a database system are also studied. Distributed database systems are discussed, if time permits. Various programming projects are assigned.
Prerequisite: CSC 3700.

Advanced Assembly Language

****CSC 4670*** ***3 cr. 3 hr.*** ▲ ●

This advanced programming course is designed for students to develop a complete and integrated system of hardware interfacing and data analysis in a computer laboratory environment.
Prerequisites: CSC 2500, CSC 2600.

Programming Practicum

****CSC 4700*** ***3 cr. 3 hr.*** ▲ ●

This course provides an opportunity for a student, working under the direction of a participating faculty member, to study or conduct research in an area not covered in other courses. Examples of areas of study include: computer graphics, compilers, operating systems, computer-aided instruction, microprogramming, and data structures. The background required of the student to participate in a Practicum depends entirely on their particular area of study or research.
Prerequisite: permission of Instructor is required to enroll in the course.

Independent Study

CSC 4901, 4902, 4903, 4904, 1,2,3,4 cr. ▲ ●

The Independent Study is available to students who have permission of the supervising Instructor and the department. The course of study, meetings, and credit are arranged upon approval.

Internship

CSC 4940, 4950, 4960 3, 6, 12 cr. ▲ ●

Directed Study

CSC 4975 ***1-6 cr.***

Topics in Computer Science

****CSC 5000*** ***3 cr. 3 hr.*** ▲ ●

The objective of this course is to study a topic of current interest in computer science. This course serves as a vehicle for curriculum experimentation and/or enrichment. The course of study should provide an understanding of some current advance in computer science and/or greater understanding of a particular topic that is of current interest. Prerequisites depend on the topic of study, but generally about five prior computer science courses is the minimum background expected.

Early Childhood, Elementary, Middle School, Bilingual, and Secondary Education

Key to Course Offerings

* Asterisk indicates that the course may be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

Personal Reading Improvement

EDUC 1000 ***1 cr. 3 hr.*** ▲

Individualized reading programs are tailored to meet the particular needs of each student. Students experiencing difficulty in understanding what they read engage in programs stressing comprehension skills. Students with good comprehension but with slow reading rates receive assistance in acquiring skills to at least double their speed. Additionally, all students are given instruction in reading at different rates for different purposes.

Personal Reading Improvement II

EDUC 1010 ***1 cr. 3 hr.*** ▲

This course is a continuation of Personal Reading Improvement I.

Early Childhood Foundations

EDUC 1100 ***4 cr. 5 hr.*** ▲

This course gives a brief orientation on the developmental philosophy and goals of early childhood education. Students consider educational procedures used in facilitating the development of the child. They also explore the role of the teacher, the environment, and the appropriate instructional strategies to use with young children. The course is required of all Early Childhood majors. A pre-practicum is required.

Behavioral Science in Early Childhood: Child Development and Observation

EDUC 1600 ***4 cr. 5 hr.*** ▲

This course includes a study of principles, patterns, and theories of human development and learning as well as principles and techniques of naturalistic and standardized child study. Observation, recording, synthesis, and interpretation of the behavior of young children occurs within a pre-practicum setting. Written case studies are required. This course is a requirement for Early Childhood majors. *Prerequisite: General Psychology or Introduction to Psychology. Required for EDUC 3110.*

Reading in Early Childhood Education

EDUC 2100 ***4 cr. 5 hr.*** ▲

The reading process and factors influencing the development of reading are examined. Pre-reading and reading skills are identified, and techniques for assessment of skills are presented. Methods and materials for teaching primary reading are discussed and illustrated. A pre-practicum is required. *Prerequisite: EDUC 2110.*

Language Arts in Early Childhood Education

EDUC 2200 ***4 cr. 5 hr.*** ▲

This course presents a timely and concise summary of important issues confronting the teacher and learner when developing a mastery of language arts in the Early Childhood Setting. The focus is on methodology related to the teaching of listening, speaking, reading, and writing. A pre-practicum is required.

Fine Arts in Early Childhood Education

EDUC 2400 ***4 cr. 5 hr.*** ▲

This course studies the integration of art, music, and movement into curricula for young children by using an interdisciplinary approach. Investigation of the objectives, methods, and materials in the fine arts is conducted. For senior practicum students only.

Pre-Kindergarten Clinical

EDUC 2500 ***4 cr. 5 hr.*** ▲

This course is designed for the student of Early Childhood Education who is interested in exploring early childhood prior to the Kindergarten and public school experience. The students investigate a variety of models and curriculum programs designed for infants, toddlers, and preschool-aged children. Further the student experiences a wide variety of pre-Kindergarten settings and explores the systems designed to create, administer, and evaluate such programs.

Parent-Child Relations in Education

EDUC 2700 ***4 cr. 5 hr.*** ▲

This course explores the role of the parent in the development of the child and how the parent relates to the educational system. This course stresses awareness of how parents stimulate the growth of behavioral trends in their children and how they can be useful as resources to improve the child's educational environment. *Prerequisite: EDUC 2110 or Child Development.*

Science in Education

EDUC 2750 ***3 cr. 3 hr.*** ▲

In this course contemporary elementary and middle school science methods, materials, courses of study and science texts are examined. Science teaching units are developed and demonstrated. A pre-practicum is required.

Integrated Creative Arts Teacher Education Program

****EDUC 2800*** ***15 cr. 45 hr.*** ▲

This is a full-semester experience which includes five weeks of classroom instruction and training in creative work in visual arts, language arts, movement, music, and integrating art forms. Subsequent to the initial training period, students are placed in field stations for classroom experiences for the remainder of the semester. While in the field stations, students assist teacher-specialists in one or more of the art form areas. They also develop and implement programs for the specific classroom and its pupils so as to foster the pupils' personal expression through creation in the arts. A weekly seminar on Wednesday afternoons from 1 p.m. to 3 p.m. is held at the College for the purpose of workshop experiences and problem solving. Students are visited and evaluated regularly by College faculty as well as by cooperating teacher-specialists in the schools. Students are expected to be present in the school throughout the semester.

Caring for Infants and Toddlers

EDUC 2900 ***4 cr. 6 hr.*** ▲

This course assists students in the development of attitudes, knowledge, and skills important to understanding and supporting the interactions of infants and toddlers.

Principles and Practices in Education

EDUC 3000 ***3 cr. 3 hr.*** ▲

This course includes an examination of the theoretical and practical knowledge of the teaching/learning process. Students demonstrate competencies in the areas of planning, curriculum design, and evaluation. Focus is placed on the needs and learning styles of the elementary school and middle school child and the instructional strategies used to meet those needs effectively. In addition, classroom management skills and techniques are emphasized. A pre-practicum is required. A portfolio assessment process is introduced in this course.
Prerequisite: PSY 2210 or PSY 2230.

Teaching Mathematics

EDUC 3020 ***3 cr. 3 hr.*** ▲

Contemporary elementary and middle school mathematics standards, methods, and materials are examined in this course. Developmentally appropriate lessons and learning devices are refined and demonstrated. A pre-practicum is required.

Reading in Education

EDUC 3030 ***3 cr. 3 hr.*** ▲

This course includes an examination of the reading process with emphasis on methods of evaluation and strategies for reading. Reading skills and procedures for developing these skills are examined, and current approaches to the teaching of reading are evaluated. The student is made cognizant of methods of grouping and evaluation procedures. A pre-practicum is required.
Prerequisites: PSY 2210, EDUC 3000.

Reading Diagnosis and Remediation

EDUC 3050 ***3 cr. 3 hr.*** ▲

This course provides students with the competencies necessary to diagnose reading abilities and to develop reading proficiency in their future classrooms. Students are taught the skills needed to administer, score, and analyze Informal Reading Inventories. The student tests a child, plans a program of instruction for that child, and instructs the child based on the diagnosis and instructional plan. Emphasis is also placed on the development and utilization of assessment strategies, instructional techniques, and instructional activities specific to the needs and interests of the child.
Prerequisites: EDUC 2100 and EDUC 3030.

Methods and Materials in Early Childhood Education

****EDUC 3060*** ***3 cr. 3 hr.*** ▲

This course includes a hands-on workshop and exploration of all areas of the early childhood curriculum. As part of the exploration, students research and prepare games and devices appropriate to an early childhood classroom. This course serves as an elective for all education majors.

Middle School Concept

****EDUC 3070*** ***3 cr. 3 hr.*** ▲

This course introduces students to the historical development, philosophy, and the competencies needed to teach in the Middle School. Pre-practicum required.
Prerequisite: PSY 2210 or PSY 2230.

Science, Math, and Social Studies in Early Childhood Education

EDUC 3100 ***4 cr. 5 hr.*** ▲

This course emphasizes the development and demonstration of instructional techniques and materials in science, math, and social studies, which are appropriate for heterogeneous groups of young children. A pre-practicum is required.

Behavioral Science in Early Childhood II: Learning and Assessment

EDUC 3110 ***4 cr. 5 hr.*** ▲

This course is a continuation of EDUC 2110. (EDUC 2110 and EDUC 3110 cannot be taken simultaneously.)

Reading in the Middle School

****EDUC 3400*** ***3 cr. 3 hr.*** ▲

This course imparts appropriate knowledge and competencies for reading at the Middle School level.

Creative Arts in Education

EDUC 3500 ***3 cr. 3 hr.*** ▲

The course explores materials and processes of children's perception and behavior with emphasis aimed at encouraging the development of their critical and creative potential. For senior practicum students only.

Social Studies in Education

EDUC 3600 ***3 cr. 3 hr.*** ▲

This course equips the future teacher with the knowledge, teaching strategies, and sequential course development necessary to teach Social Studies at the elementary and middle school level. A pre-practicum is required.
Prerequisite: EDUC 3000 or EDUC 3200.

Reading in the Content Areas

EDUC 3640 ***3 cr. 3 hr.*** ▲

This course includes an investigation of the reading process, a discussion of current evaluative methods, an analysis of reading strategies, and procedures for development.

Curriculum and Instruction in the Middle School

****EDUC 3660*** ***3 cr. 3 hr.*** ▲

This course introduces students to curriculum development, instructional competencies, and appropriate goals and objectives for the Middle School. A pre-practicum is required.
Prerequisites: PSY 2210 or PSY 2230 and Middle School Concept.

Using Computers in Classrooms

EDUC 3700 ***3 cr. 3 hr.*** ▲

Students examine the philosophy, theory, and application of computers in classrooms. A significant portion of class time is devoted to "hands on" experiences with Macintosh computers. These experiences include programming in text and graphics mode, introducing and using LOGO, using printers, developing programs designed to enhance the learning abilities of children, and evaluating educational software. Prior experience using computers is not assumed. Q

Analysis of Reading Problems

EDUC 4000 ***3 cr. 3 hr.*** ▲

The course examines the correlates of reading problems. Students learn to identify principles of diagnosis, and analyze, administer, and interpret formal diagnostic tests. Students demonstrate competency in preparing a case study report.
Prerequisite: EDUC 2100 or EDUC 3030.

Foundations Seminar

EDUC 4010 ***3 cr. 3 hr.*** ▲

This course covers an examination of the historical perspectives and philosophical orientation in the field of elementary and middle school education. Specific attention is given to an analysis of current issues and programs in social foundation, legal foundation, curricular patterns, and pluralism in Education. For senior practicum students only.

Senior Seminar in Early Childhood

EDUC 4050 ***4 cr. 5 hr.*** ▲

This course covers an examination of the historical perspectives and philosophical orientations in the field of early childhood education. Specific attention is given to an analysis of current issues and programs. For senior practicum students only.

Language Arts in Education

EDUC 4100 ***3 cr. 3 hr.*** ▲

This course provides students with an introduction to the nature of language and language growth. Emphasis is placed on the meaning and importance of language arts as well as on the characteristics of elementary and middle school age children, which affect and are affected by the language arts program. Elements of writing, speaking, listening, and reading are stressed. A pre-practicum is required.

Prerequisite: EDUC 3000 or EDUC 3200.

Introduction to Learning Disabilities

****EDUC 4780*** ***3 cr. 3 hr.*** ▲

This course includes a study of some of the causes of school learning disabilities at the Elementary level. Specific techniques and remediation exercises are discussed.

Practicum I and II in Early Childhood Education

EDUC 4862, 4863 ***4 cr.*** ▲

For the Student Teaching Practicum in Early Childhood, students are assigned to cooperating schools for a semester of student teaching.

Practicum in Elementary Education I and II

EDUC 4882, 4883 ***4 cr.*** ▲

Students are assigned to cooperating elementary schools for a semester of student teaching.

Practicum in Middle School Education I and II

EDUC 4885, 4886 ***4 cr.*** ▲

Students are assigned to cooperating middle schools for a semester of student teaching.

Independent Study in Education

EDUC 4903 ***3 cr.*** ▲

This course provides students in early childhood, elementary, and secondary education with the opportunity to do research with staff guidance in a problem in education. The course is limited to juniors and seniors.

Prerequisite: permission of Department.

Directed Study

EDUC 4975 ***1-6 cr.*** ▲

Topics in Education

EDUC 5000 ***3 cr. 3 hr.*** ▲

Courses having a more narrow focus or those taught on an irregular basis may be offered under the heading "Topics". New courses may also be taught on an experimental basis under this title.

Introduction to Bilingual Education

EDUC 5100 ***3 cr. 3 hr.*** ▲

This course provides an overview of the theory, research and practice of bilinqual education. Historical constructs, current theories, and the philosophy of bilingual biculturalism will be emphasized. Basic concepts of bilingualism, state, and nation initiatives, politics and legislative mandates regarding bilingual education will be discussed. Familial, cultural, developmental and diverse learning abilities as they relate to the bilingual children will also be explored.

Theories of Language and Second Language Acquisition

EDUC 5200 ***3 cr. 3 hr.*** ▲

The course introduces current theoretical models of language acquisition focusing on literacy development and developing language skills. It is designed to provide students with an overall understanding of the importance of language development and language acquisition as seen in the education environment. Issues regarding first and second language development will be addressed. Students will focus on how theory and research relate to language instruction.

Bilingual Teaching Methods and Strategies

EDUC 5300 ***3 cr. 3 hr.*** ▲

This course introduces students to the various theories and methods of teaching children from diverse linguistic backgrounds. The emphasis will be placed on approaches and methodologies in teaching both English and the child's native language. Teaching strategies for supporting language skills, assessment approaches and evaluation procedures to determine the needs of bilingual students will be provided. Children with diverse learning abilities within the bilingual setting will also be emphasized.

Assessment and Evaluation of Bilingual Programs

EDUC 5400 ***3 cr. 3 hr.*** ▲

This course is designed to explore the assessment and evaluation systems in bilingual education programs. The focus will be on the federal, state, and local educational policies and assessment practices of students in terms of language acquisition, language skills, content knowledge, as well as the evaluation of curriculum materials and teaching methods. Student progress, monitoring, developing and designing authentic assessment approaches, creating portfolios, as well as previewing, analyzing, and evaluating current bilingual assessment instruments will be included.

Bilingual Practicum

EDUC 5500 ***3 cr. 3 hr.*** ▲

The practicum is designed for student teachers preparing for their certification, Teacher of Transitional Bilingual Education, Elementary Provisional with Advanced Standing. The students will be placed in bilingual classrooms at various grade levels (K-third grade) where they will be observing, assisting, and teaching under the supervision of a cooperating teacher. The students will also be attending, with their college supervisor regularly scheduled seminars (see Bilingual seminar) in which both Spanish and English will be presented.

Bilingual Seminar

EDUC 5600 ***1 cr. 1 hr.*** ▲

The Bilingual Seminar is a complement and supplement to the Student Teaching Practicum in the bilingual classroom setting. Students will investigate the diversity of bilingual classroom settings, learning environments, curriculum approaches, teaching methodologies and teaching strategies as they relate to the bilingual child. Observation, journal writing and curriculum presentations and evaluations will be required.

Economics

Key to Course Offerings

Q: designates courses in the Quantitative Scientific Cluster

I: the Ideas and Events Cluster

B: the Human Behavior Cluster

L: the Literature, Language and Arts Cluster

C: Multicultural

IDIS: Interdisciplinary courses

Multicultural and interdisciplinary courses also fulfill a cluster designation.

* Asterisk indicates that the course may be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

Principles of Economics: Macroeconomics

ECON 1000 ***3 cr. 3 hr.*** ▲ ●

This course is a study of the theory of employment, income, and growth. Stabilization policy and current problems in American capitalism are emphasized. I

Prerequisite: satisfactory completion of the College Mathematical Readiness requirement.

Principles of Economics: Microeconomics

ECON 1200 ***3 cr. 3 hr.*** ▲ ●

Students examine the theory of the consumer and the business firm in this course. Efficiency in the allocation of resources is examined in four different market structures: pure competition, pure monopoly, monopolistic competition, and oligopoly. I

Prerequisite: satisfactory completion of the College Math Readiness requirement.

Introduction to the U.S. Economy in Global Perspective

ECON 1250 ***3 cr. 3 hr.*** ▲

This course is an introduction to economics course for non-majors. It surveys the field of economics without the technical sophistication of a principles course. The focus is on the real problems of competition and growth of the U.S. in the world economy. I

Consumer Economics

ECON 1300 ***3 cr. 3 hr.*** ▲

This course emphasizes theories of consumption and economic functioning with emphasis on demand, consumer problems, standards of living, policies for protecting consumers, and expanding consumption. I

Comparative Economic Systems

ECON 2200 ***3 cr. 3 hr.*** ▲

This course studies the different economic systems operational in the world today. Emphasis is on differences between the various types of market capitalist and planning systems. I

Prerequisite: ECON 1000.

Industrial Organization

ECON 2300 ***3 cr. 3 hr.*** ▲

This course integrates theory, empirical studies, and case studies to analyze the effects of government regulations on the structure and organization of US business firms. Several cases of antitrust legislation are studied. In addition the course shows how political and economic issues affect industrial organization. I

Prerequisites: satisfactory completion of the College Mathematical Readiness requirement and ECON 1200.

Money and Banking

ECON 2400 ***3 cr. 3 hr.*** ▲ ●

This course focuses on the role of money, credit, and banking in the American economy. Special emphasis is placed on the applicability of monetary policy to the problems of economic stability. I

Prerequisite: ECON 1000.

Human Resource Economics

ECON 2450 ***3 cr. 3 hr.*** ▲

Labor market and employment analysis are the focus of this course, which covers the structure of labor markets, the education and training of the labor force, and manpower programs. The serious problems of unemployment, underemployment, discrimination, and barriers to job entry are also discussed.

Prerequisites: ECON 1200 or ECON 1250.

Economic Development

ECON 2500 ***3 cr. 3 hr.*** ▲

This course examines the problems of less developed countries. Topics of discussion include population, income growth, capital formation, unemployment, foreign investment and aid, the role of government, and international economics. I, C

Prerequisite: ECON 1000.

Urban Economics

ECON 2550 ***3 cr. 3 hr.*** ▲

This course is a historical and economic explanation of the growth of cities as well as a theoretical analysis of their location, form, and economic structure. Current urban problems are also discussed.

Prerequisites: ECON 1000, ECON 1200 or ECON 1250.

Public Finance

ECON 2600 ***3 cr. 3 hr.*** ▲

This course studies the principle of governmental expenditures and revenues. Attention is also devoted to the problems of public debt, fiscal policy, and inter-governmental fiscal relations particularly in reference to the United States. I

Prerequisites: ECON 1200.

History of Economic Thought

ECON 3000 ***3 cr. 3 hr.*** ▲

Within the framework of understanding the relationship between history and economic thought, this course covers the work of the great economists. Starting with the roots of economic thought in the works of the mercantilists and physiocrats, the course turns to the giants in political economy, including Adam Smith, David Ricardo, Karl Marx, Alfred Marshall, and J. M. Keynes.

Prerequisites: ECON 1000 and ECON 1200.

International Economics

ECON 3550 ***3 cr. 3 hr.*** ▲

This course explores the theories of international trade and finance and their links to theories of economic development and growth. Major current topics in the international economy, including economic competition among countries, debt problems in the Third World, and North-South relations, are treated as practical issues against which the theories can be tested. I

Prerequisites: ECON 1000, ECON 1200.

Intermediate Macroeconomics

ECON 3650 ***3 cr. 3 hr.*** ▲

As a second course and more advanced treatment of macroeconomics, this course provides a detailed examination of major topics in macroeconomics. Topics of discussion include theories of consumption, investment, and growth recession, as well as efforts by the government to stabilize the economy through fiscal, monetary, or other measures. This course introduces the Keynesian, neo-classical, and Marxian models of the macroeconomy. I

Prerequisites: ECON 1000, ECON 1200.

Intermediate Microeconomics

ECON 3660 ***3 cr. 3 hr.*** ▲

This course analyzes consumer and producer equilibrium in a market economy. The behavior of firms in the four market structures and the behavior of firms and individuals in input markets is examined. Applications of economic theory to concrete economic problems are emphasized. I

Prerequisites: satisfactory completion of the College Mathematical Readiness requirement, ECON 1200.

Econometrics

ECON 3700 ***3 cr. 3 hr.*** ▲

This course is an introduction to econometric methods, statistical inferences, and testing hypotheses. Model building techniques and their theoretical justifications are presented and evaluated in terms of their performance. Q
Prerequisites: ECON 1000, ECON 1200, MATH 2200, MATH 2800 or permission of Instructor.

Managerial Economics

ECON 3750 ***3 cr. 3 hr.*** ▲

Applied microeconomics or the application of economic theory and methodology to the practice of managerial decision making is the focus of this course. Case studies are emphasized in instruction. I
Prerequisites: ECON 1000, ECON 1200, MATH 2200, MATH 2800 or permission of Instructor.

Independent Study in Economics

ECON 4900 ***3 cr. 3 hr.*** ▲

The Independent Study is open to students who have the permission of the supervising instructor and the department. Course of study, meetings, and credit are arranged with approval.

Internship in Economics

ECON 4940 ***12 cr. 3 hr.*** ▲

The Internship provides work experiences in private or public firms. Students acquire skills useful to professional economists.
Prerequisites: junior or senior standing, 3.00 Econ. cum, or permission of internship coordinator.

Directed Study

ECON 4975 ***1-6 cr.*** ▲

Topics in Economics

ECON 5000 ***3 cr. 3 hr.*** ▲

Courses having a more narrow focus or those taught on an irregular basis may be offered under the "Topics" heading. New courses may also be taught on an experimental basis under this title.

English

Key to Course Offerings

O: designates courses in the Quantitative Scientific Cluster

I: the Ideas and Events Cluster

B: the Human Behavior Cluster

L: the Literature, Language and Arts Cluster

C: Multicultural

IDIS: Interdisciplinary courses

Multicultural and interdisciplinary courses also fulfill a cluster designation.

* Asterisk indicates that the course may be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

Basic College Writing

ENGL 0100 ***3 inst. cr. 3 hr.*** ▲

This course studies the process of writing as well as sentence arrangements and punctuation patterns in Edited American English. The course includes a Writing Skills Center tutorial program.

Writing Skills Workshop

ENGL 1000 ***1 cr. 3 hr.*** ▲

An intensive study of the basic writing skills. This course cannot be taken simultaneously with Basic College Writing (ENGL 0100), Writing I or II (ENGL 1100, 1200). The class may be taken 3 times for 1 credit per semester.

Writing I

ENGL 1100 ***3 cr. 3 hr.*** ▲ ●

This course explores writing as process and product. Practice, both oral and written, in expressing ideas with precision, clarity, and economy, the development of research skills, and critical reading are emphasized.

Writing II

ENGL 1200 ***3 cr. 3 hr.*** ▲ ●

This course is a continuation of ENGL 1100 with an emphasis on writing as a thinking and learning process. Careful reading, critical and creative thinking, and writing, using analysis and synthesis, is promoted with the assignment of five writing assignments on a range of subjects. A research essay is required. Course options incorporate various styles and formats related to different situations and audiences.
Prerequisite: a passing grade in ENGL 1100.

Approaches to English Studies

ENGL 1999 ***3 cr. 3 hr.*** ▲

An introduction to the academic study of English and the different ways readers can connect to, think about, and experience literature. The course provides an overview of the discipline's issues and theories and gives students experience in writing practical criticism and using research tools and methods. L

American Literature I

ENGL 2000 ***3 cr. 3 hr.*** ▲ ●

This course examines representative texts from the age of exploration through the American Civil War. L

American Literature II

ENGL 2100 ***3 cr. 3 hr.*** ▲ ●

This course examines representative texts and their contexts since the Civil War. L

English Literature I

ENGL 2200 ***3 cr. 3 hr.*** ▲ ●

This course covers British writers from the Old English period through the mid-17th Century. L

English Literature II

ENGL 2210 ***3 cr. 3 hr.*** ▲

This course covers British writers of the Restoration through the Romantic period. L

English Literature III

ENGL 2220 ***3 cr. 3 hr.*** ▲

This course covers British writers from Victorian through Contemporary period. L

Literature and Disability

****ENGL 2300*** ***3 cr. 3 hr.*** ▲ ●

Through fiction, biography, and autobiography, this course examines images of disability as presented in literature. L, B, IDIS

Script Writing

ENGL 2320 ***3 cr. 3 hr.*** ▲

This basic course in script writing for film, television, and multi-image productions includes information on the preparation of proposals, treatments, storyboards, and scripts. Script formats include documentary, educational, corporate, and dramatic film/video writing.
(Credit is not given for both ENGL 2320 and COMM 2320.)

Literature and Film

ENGL 2330 ***3 cr. 3 hr.*** ▲ ●

This course involves the critical study of literature and film as means to convey narratives and stories. The conventions of various literary genres and types of films will be considered. Special attention will be paid to the adaptation of novels and stories for the screen. Students will study a dozen or more motion pictures in depth and compose six to eight critical essays. L, IDIS

World Literature I

ENGL 2400 ***3 cr. 3 hr.*** ▲ ●

This course examines masterpieces through the middle of the 17th century. L, C

World Literature II

ENGL 2500 ***3 cr. 3 hr.*** ▲ ●

This course examines masterpieces from the mid-17th century to the present. L, C

The Bible as Literature

ENGL 2600 ***3 cr. 3 hr.*** ▲ ●

The course examines the style, narrative techniques, symbols, and historical setting of the Old and New Testament writers. L, C

Classical Mythology

ENGL 2620 ***3 cr. 3 hr.*** ▲ ●

This course examines pre-Homeric stirrings of symbol and story then moves on to study Virgil and Ovid and Roman traditions. L, C

Other Voices

ENGL 2650 ***3 cr. 3 hr.*** ▲

This course presents works by significant ethnic writers, such as James Baldwin, Maxine Hong Kingston, Zora Neale Hurston, M. Scott Momoday, Toni Morrison, and Leslie Marmon Silko. L, C

19th-Century African American Literature

ENGL 2660 ***3 cr. 3 hr.*** ▲ ●

This course is an introduction to the literature, thought, and literary practice of African-American writers throughout the nineteenth century. This course will involve close reading and analysis of such representative authors as Frederick Douglass, Frances E.W. Harper, Harriet Jacobs, and Sojourner Truth. L, C

20th-Century African American Literature

ENGL 2670 ***3 cr. 3 hr.*** ▲ ●

This course is an introduction to the literature, thought and literary practice of African American writers from the turn of the century to the present. L, C

The Short Story

ENGL 2700 ***3 cr. 3 hr.*** ▲ ●

Significant stories by some of the world's great writers are read and analyzed to show the evolution of the short story form. L

Poetry and Self-Identity

ENGL 2720 ***3 cr. 3 hr.*** ▲ ●

Students read, write, edit, and study poetry about self-identity—who we are and how we establish ourselves in relation to our ethnic, racial, and cultural experiences. This poetry workshop teaches students to express themselves through poetry and examines autobiographical poems by authors such as Lucille Clifton, Li-Young Lee, Joy Harjo, Rita Dove, Leslie Marmon Silko, Michael Harper, and Cathy Song. L, C

Detective Fiction

ENGL 2750 ***3 cr. 3 hr.*** ▲ ●

The mystery novel/crime story genre is explored through a range of authors and time periods, including stories from Poe to Conan Doyle, classic British fiction, and its distinctively American counterparts, and significant contemporary works. L

Journalism

ENGL 2800 ***3 cr. 3 hr.*** ▲

This course studies the press through individualized writing assignments. Emphasis is placed on ethics in news, treatment of contemporary issues, and structuring the news story.
(Credit is not given for both ENGL 2800 and COMM 2800)

Editing and Publishing

****ENGL 2810*** ***3 cr. 3 hr.*** ▲

This class explores the mechanics of editing, issues of attribution, use of sources, balanced coverage and libel laws. In addition, the relationship between editor and writer with reference to agents, the submission and selection process, and collaborating is explored. Students also gain an understanding of writing for special markets, such as education or medicine, and getting a track record.

Introduction to Secondary School Teaching

ENGL 2860 ***3 cr. 3 hr.*** ▲

In this course students become familiar with the complexities and demands of secondary school teaching. The course gives faculty the opportunity to screen students and students the opportunity to test their commitment to teaching. The course includes a pre-practicum requirement and is a prerequisite for other certification course requirements. The class is required of all students entering a provisional certification program at the secondary level. It is a sophomore-level course for full-time undergraduates, and the first course for transfer and certification-only students.

Storytelling and the Oral Tradition

ENGL 2890 ***3 cr. 3 hr.*** ▲ ●

The course will study the oral tradition in European and non-Western contexts. Students will examine the oral tradition in classic works as well as its continuance in contemporary forms like fairy tales, popular music, story theater and "performance art." Students will consider the structure and presentation of traditional, individually composed and "family" narratives and stories. Each student will give at least two oral presentations before an audience during the semester. L, C

Children's Literature

ENGL 2900 ***3 cr. 3 hr.*** ▲ ●

The course serves as an introductory survey of both classic and contemporary children's literature. Texts are studied from a variety of perspectives in the contexts of both childhood and society. L

Literature for Young Adults

ENGL 2910 ***3 cr. 3 hr.*** ▲ ●

A survey of current books written for readers 12 to 18. Students develop skill in evaluating young adult literature in terms of literary quality, reader interest, and social or political perspective. Problem novels, YA classics, realistic fiction, historical novels, science fiction, and poetry are some types of books examined. L

Survey of English Grammar

ENGL 2950 ***1 cr. 1 hr.*** ▲

The course studies traditional and transformational systems of English grammar as a basis for understanding conventions of English usage.

World Drama

ENGL 3000 **3 cr. 3 hr.** ▲

The course examines significant and representative plays from the beginning to the modern period. L, C

American Drama

ENGL 3010 **3 cr. 3 hr.** ▲

This will be a survey of American Dramatic Literature from its beginnings in prerevolutionary British Colonies to the present. The course will involve critical reading of dramatic literary texts. Students will also attend productions of plays studied in the class on and off campus. Additionally, students will engage in active discussion and analysis of these plays and will be required to write papers on particular authors. L

Modern Drama

ENGL 3020 **3 cr. 3 hr.** ▲

The course examines the works of such playwrights as Ibsen, Chekhov, Sartre, Brecht, Ionesco, Beckett, and Pinter. L, C

The Middle Ages

ENGL 3030 **3 cr. 3 hr.** ▲

The course examines literature of the British Isles and Europe to 1500. L

British Literature Since World War II

ENGL 3040 **3 cr. 3 hr.** ▲ ●

This course examines fiction, drama, and poetry written in Britain and her former Commonwealth since World War II. Special emphasis is placed on the role imperialism and decolonization has had in literature. Authors examined include A.S. Byatt, Derek Walcott, Wole Soyinka, Salman Rushdie, and Michael Ondaatje. L

The World Novel to 1914

ENGL 3100 **3 cr. 3 hr.** ▲

The course investigates significant novels representing various countries and periods as well as stages in the development of this literary form. L, C

The World Novel Since 1914

ENGL 3110 **3 cr. 3 hr.** ▲

Modern novels are studied both as aesthetic artifacts and as human documents. L, C

Major American Writers of the 20th Century

ENGL 3210 **3 cr. 3 hr.** ▲

The varied creativity of American writers is explored through the study of fiction, drama, poetry, criticism, and the essay since World War I. L

American Novel to 1950

****ENGL 3220*** **3 cr. 3 hr.** ▲

This course provides a close examination of several representative works by major American novelists of this period. L

Women and Literature

ENGL 3300 **3 cr. 3 hr.** ▲

Literature by and about women is examined in light of their roles in society, at work, and in relationships. L

Technical Documentation

ENGL 3470 **3 cr. 3 hr.** ▲ ●

This course gives students the opportunity to study and write the basic forms of technical documentation found in business and industry, including end-user manuals and training guides. Examination of graphics, typography, and desktop publishing is considered as they apply to hardcopy production.

(Credit is not given for both ENGL 3470 and COMM 3470.)

Creative Writing

ENGL 3800 **3 cr. 3 hr.** ▲ ●

Students write and edit fiction and poetry in a workshop setting. Junior standing or approval of the Instructor is required to enroll in this class. L

Journalism Practicum: I and II

ENGL 3810 and 3820 **3 cr. 3 hr.** ▲

These Practica are open to members of the *Point* and other students interested in obtaining hands-on training in journalism with the goal of having works published in student and community newspapers. (P1 and P2 may be taken separately for a total of 6 credits).

Prerequisite: Journalism.

The American Magazine

****ENGL 3840*** **3 cr. 3 hr.** ▲

This course provides a close study of significant American magazines with emphasis on the editorial policies and requirements, audience slant, advertisements, and visual layouts.

Writing for Business and Technology

ENGL 3860 **3 cr. 3 hr.** ▲ ●

The course is for students interested in writing in the business, industry, and management context. Topics covered in the class are: business correspondence, description of process and mechanisms, sets of instructions, proposals, abstracts, and reports. (Credit is not given for both ENGL 3860 and COMM 3860.)

Feature and Magazine Writing

ENGL 3870 **3 cr. 3 hr.** ▲

This course explores writing feature articles for newspapers, magazines, and trade journals. (Credit is not given for both ENGL 3870 and COMM 3870.)

Prerequisite: Journalism.

Advanced Expository Writing

ENGL 3890 **3 cr. 3 hr.** ▲

With a focus on nonfiction writing genres, the course investigates the social, linguistic, and rhetorical conventions underlying the creation of traditional forms. Topics of discussion include classical and modern rhetorical theory and related grammatical, linguistic, and philosophical questions. L

Chaucer and His World

ENGL 4010 **3 cr. 3 hr.** ▲

This course emphasizes the Canterbury Tales in their medieval context. L

Shakespeare's Drama

ENGL 4020 **3 cr. 3 hr.** ▲

Students read several history plays as well as one comedy and one tragedy from Shakespeare's body of work. Emphasis is placed on Shakespeare's interpretation of political life and leadership. L

Shakespeare's Thought

ENGL 4030 **3 cr. 3 hr.** ▲

The plays of Shakespeare are examined for their psychological, philosophical, and religious meanings. Emphasis is placed on the conception of human destiny in Shakespeare's comedies and tragedies. L

Major English Writers of the 17th Century

****ENGL 4040*** **3 cr. 3 hr.** ▲

This course will survey one or more genres, for example, the dramas of Jonson, Webster, Behn, and Congreve; the poetry of Milton, Donne, Herbert, Herrick, Marvell, Dryden, Wroth, and Phillips; prose work by Browne, Fell, Astell, and Pepys. L

The Novel in the 18th Century

ENGL 4050 **3 cr. 3 hr.** ▲

This course studies the origins of the novel in England as it reflects the tastes of a rising middle class. Readings include Defoe, Richardson, Fielding, Burney, Johnson, Austen, Edgeworth, Heywood, and others. L

The Age of Satire: 1700-1750

ENGL 4060 **3 cr. 3 hr.** ▲

This class emphasizes the public and literary responsibilities of the writer and the various ways that humor is used as a weapon for social purposes. Authors include Swift, Pope, Astell, Behn, Collier, and others. L

From Classic to Romantic: 1750-1800

ENGL 4070 ***3 cr. 3 hr.*** ▲

This course explores the revolution in manners, philosophy, science, and gender as reflected in literature, art, and music from the late 18th century. Major genres include drama, poetry, fiction, prose, paintings, and engravings. L

Romanticism

ENGL 4080 ***3 cr. 3 hr.*** ▲

The poetry, prose, and art representative of the political, social, and artistic upheaval called "Romanticism" is considered. Readings include Romanticism's outcasts, alternative voices, and anti Romantic writers. L

The 19th-Century English Novel

ENGL 4090 ***3 cr. 3 hr.*** ▲

Significant novels demonstrating the changing cultural milieu and varying approaches of the genre during this period are examined and discussed. L

The Age of Dickens

ENGL 4095 ***3 cr. 3 hr.*** ▲ ●

Students read and study the works of Dickens—the literary craftsman, the reporter of his age, the social reformer—as a foundation for examining the nineteenth century in prose, poetry, and/or drama. L

Victorian Literature

ENGL 4100 ***3 cr. 3 hr.*** ▲

The individual's relationship to a changing society in the face of nineteenth-century industrialization and scientific progress is studied through the major writers of the period. L

British Modernism

ENGL 4115 ***3 cr. 3 hr.*** ▲ ●

This course examines the major texts and trends of what is now called High Modernism. Authors studied include Ford Madox Ford, James Joyce, Virginia Woolf, and T.S. Eliot. L

20th-Century Irish Fiction

ENGL 4120 ***3 cr. 3 hr.*** ▲ ●

Irish fiction from James Joyce through Brian Moore, including O'Faolain, O'Connor, O'Brien, O'Flaherty, McGahem, is read and discussed. L, C

20th-Century Irish Drama and Poetry

ENGL 4130 ***3 cr. 3 hr.*** ▲

Irish poets, from Yeats through Montague, Kinsella and Heaney, and Irish playwrights, from Synge and O'Casey through Beckett and Friel are read and discussed. L, C

Modern Poetry

ENGL 4140 ***3 cr. 3 hr.*** ▲ ●

Chief modern poets of America and England are introduced and close reading is encouraged in the lyric form of writers such as Eliot through Lowell, Plath and other end-of-century writers. Emphasis is on these creators as precursors in a tradition. L

Mark Twain and American Humor

ENGL 4150 ***3 cr. 3 hr.*** ▲

This course explores Southwestern humor as it leads up to the writings and career of Mark Twain, and humorists who share the Twain legacy. American film comedy and stand-up comics are also considered. L

The Romantic Movement in U.S. Literature 1810-1860

****ENGL 4200*** ***3 cr. 3 hr.*** ▲

This course explores concepts of nature, idealism, and community in the works of Hawthorne, Poe, and others. L

American Novel Since World War II

ENGL 4230 ***3 cr. 3 hr.*** ▲

The class provides a close analysis of seven or eight major novels. L

Rags to Riches in a Hostile World

ENGL 4240 ***3 cr. 3 hr.*** ▲

The course examines the Horatio Alger hero in American literature. L

Journalist to Novelist

****ENGL 4260*** ***3 cr. 3 hr.*** ▲

This class explores the stylistic and professional development of distinguished American writers who began their careers as reporters. L

Seminar

ENGL 4400 ***3 cr. 3 hr.*** ▲

The seminar examines topics for literary analysis and research as selected by the instructor. The seminar is required for English majors taking the literature track. Others are admitted by permission of the instructor.

Literary Criticism

****ENGL 4500*** ***3 cr. 3 hr.*** ▲

Theories about literature are examined, and their practical application in the classroom and in one's own reading is discussed. Approaches to different forms of literature as well as a survey of changing historical perspectives are also explored.

The Structure and the Nature of Language

ENGL 4600 ***3 cr. 3 hr.*** ▲

This course studies language systems and grammatical theories, including the history of the English language, theories of language acquisition, and psycholinguistic and sociolinguistic topics. L

Teaching Writing in Secondary Schools

ENGL 4700 ***3 cr. 3 hr.*** ▲

This course provides practice and research in alternatives for teaching writing in secondary schools. Different approaches are explored through experiments for the teacher and opportunities to test these approaches are available in prepracticum experiences.

Special Methods in English

ENGL 4850 ***3 cr. 3 hr.*** ▲

The final course in the Certification Program for Secondary Teachers of English. The approach to teaching English is holistic, emphasizing the interrelatedness of all language abilities: speaking, listening, reading, and writing. We experiment with and evaluate a variety of teaching approaches for creating responsive, reflective, and responsible readers, writers, and speakers. A prepracticum is required.

English Practicum in a Secondary School I and II

ENGL 4860, 4870 ***6 cr.*** ▲

In the student teaching practicum students are assigned to cooperating schools for a semester of student teaching.

Independent Study

ENGL 4903 ***3 cr.*** ▲ ●

The Independent Study is for English majors excelling in scholarship and can be taken upon approval of both department chair and advising instructor. Course of study, meetings, and credit are arranged with advisor.

Internship

ENGL 4940, 4950, 4960 ***3, 6, 9 cr.*** ▲

Internship

ENGL 4970 ***12 cr.*** ▲

The Internship provides an opportunity to gain valuable on-the-job experience for college credit by spending one semester (full-time) in business or industry. Students select field placement where they can use their abilities as communicators, learn new skills, and sample a potential job market. The Internship is a recommended component of the English Department Writing Track. Department approval and junior/senior standing required.

Directed Study

ENGL 4975 ***1-6 cr.*** ▲ ●

Topics

ENGL 5000 ***3 cr. 3 hr.***

This course serves as a vehicle for curriculum experimentation and enrichment. Topics are selected by the instructor, usually from work in progress.

Environmental Science

Introduction to Environmental Science

ENSC 1000 ***3 cr. 4 hr.*** ▲ ●

The goal of Introduction to Environmental Science is to provide students with the scientific principles, concepts, and methodologies required to understand interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving and/or preventing them.

Field Techniques in Environmental Science I

ENSC 2000 ***3 cr. 4 hr.*** ▲ ●

This course will provide an introduction to the mode of thinking as well as the scientific techniques to performing data gathering appropriate for work in the field. As such it is appropriate for both environmental science and biology students. The focus of the field techniques will be ecological/ biological. This course is independent of ENSC 2100 Field Techniques in Environmental Science II.

Field Techniques in Environmental Science II

ENSC 2100 ***3 cr. 4 hr.*** ▲ ●

This course will provide an introduction to the mode of thinking as well as the scientific techniques to performing data gathering appropriate for work in the field. As such it is appropriate for both environmental science and biology students. The focus of the field techniques will be physical/ biological. This course is independent of ENSC 2000 Field Techniques in Environmental Science I.

Elements of Physical Chemistry

ENSC 3000 ***4 cr. 6 hr.*** ▲ ●

An introductory course in physical chemistry covering: thermodynamics, mass-transport, solutions, etc. It is designed to provide students with the ability to think critically and utilize physical parameters in chemical systems, to perform numerical calculations involving these systems, and use this understanding when viewing environmental problems and risks.

Environmental Analysis

ENSC 4000 ***4 cr. 6 hr.*** ▲ ●

Students will conduct chemical analyses of air, soil, and water for metals, inorganic ions, volatile and semi-volatile organic parameters. Participants will be required to collect samples, prepare documentation, prepare standards and samples, perform calculations and prepare reports detailing procedure, results, and an interpretation of the results.

Seminar in Environmental Science

ENSC 4100 ***3 cr. 4 hr.*** ▲ ●

This course will be required of all environmental science students. It shall be taken in the student's final year. The course will consist of a series of presentations of actual environmental problems. The course will include attending local conservation and/or planning commission meetings.

Internship in Environmental Science

ENSC 4950 ***4-6 cr.*** ▲ ●

The internships experience is for senior environmental science majors. These internships are to be completed at a participating federal, state, local, or private environmental organization. A 3.00+ cumulative average in the major and cognate departments is required to enroll.

Directed Study

ENSC 4975 ***1-6 cr.***

Topics in Environmental Science

ENSC 5000 ***3 cr. 4 hr.*** ▲ ●

This is a collective title designed to include courses that are under development or will be offered on an occasional basis.

French

Key to Course Offerings

Q: designates courses in the Quantitative Scientific Cluster

I: the Ideas and Events Cluster

B: the Human Behavior Cluster

L: the Literature, Language and Arts Cluster

C: Multicultural

IDIS: Interdisciplinary courses

Multicultural and interdisciplinary courses also fulfill a cluster designation.

* Asterisk indicates that the course may be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

French for Beginners I

FREN 1000 ***3 cr. 3 hr.*** ▲ ●

The correct pronunciation, reading ability, and fundamentals of grammar and syntax are taught in this class. Over the semester French gradually becomes the working classroom language. The class is designed for students with no language experience or less than two years of French at a high school level.

Note: Students with two or more years of language instruction are not admitted without permission of Instructor. L, C

French for Beginners II

FREN 1100 ***3 cr. 3 hr.*** ▲ ●

This class serves as a continuation of FREN 1000. L, C

Intermediate French I

FREN 2000 ***3 cr. 3 hr.*** ▲

This course includes practice in conversation practice as well as readings stressing life, customs, and culture of France. L, C

Prerequisite: two years of high school, French II and/or permission of Instructor.

Intermediate French II

FREN 2100 ***3 cr. 3 hr.*** ▲

This course serves as a continuation of FREN 2000. L, C

Methods for Teaching French in the Elementary School

****FREN 2400*** ***3 cr. 3 hr.*** ▲

The course provides techniques and materials for use in teaching French at an elementary school level. The course is required for foreign language specialization. A minimum of twelve semester hours of French or its equivalent and Instructor's permission is required to enroll.

French Civilization

FREN 3000 ***3 cr. 3 hr.*** ▲

The course covers the history, geography, fine arts, and literature of the French people from the earliest times through today. Course work includes extensive readings in French. I, L, C, IDIS

Prerequisite: FREN 2100 or permission of Instructor.

French Literature

FREN 3300 ***3 cr. 3 hr.*** ▲

This course will present a cultural, historical and sociological study of France as mirrored in selected works of French writers and thinkers. The time period is from the Medieval ages through and including the 20th century. L, C

Prerequisite: FREN 2100 or permission of Instructor.

French Conversation and Composition

FREN 3500 ***3 cr. 3 hr.*** ▲

This course is recommended for students who desire greater fluency in speech and writing as well as for students taking civilization and literature courses. L, C

Prerequisite: FREN 2100 or permission of Instructor.

Independent Study

FREN 4901 ***1 cr. 1 hr.*** ▲

Advanced French Independent Study

FREN 4903 ***3 cr. 3 hr.*** ▲

Prerequisite: minimum of 12 semester hours, 2.0 grade-average in French, and permission of Instructor, Department Chairman.

Directed Study

FREN 4975 ***1-6 cr.*** ▲

Topics

FREN 5000 ***3 cr. 3 hr.*** ▲

Courses having a more narrow focus or those taught on an irregular basis may be offered under the "Topics" heading. New courses may also be taught on an experimental basis under this title.

Interdisciplinary (General Studies) Capstone

GENS 4803, 4805, 4806, 4809, 4812, 4815 ***3-12 cr.***

The culminating course for General Studies major. It can be an internship, a special project, or in independent research program. Course is proposed by the student on a special form provided by the Coordinator of Interdisciplinary Studies and approved by the advising committee. The content of this course should demonstrate the integration of the student's fields of study. Contact the Coordinator of Interdisciplinary Studies for further instruction.

Geo/Physical Sciences

Key to Course Offerings

Q: designates courses in the Quantitative Scientific Cluster

I: the Ideas and Events Cluster

B: the Human Behavior Cluster

L: the Literature, Language and Arts Cluster

C: Multicultural

IDIS: Interdisciplinary courses

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* Asterisk indicates that the course may be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

Introduction to Geography

GEOG 1000 ***3 cr. 3 hr.*** ▲ ●

This course explores the complex interrelationships between the earth's physical features and human activity. Topics include earth/sun relationships, mapping techniques, atmospheric processes that produce clouds, precipitation and storms (including tornadoes, hurricanes and mid-latitude cyclones), global climate/vegetation/soils, rocks, earthquakes, mountain building, volcanoes, glaciers, river systems and plate tectonics/continental drift. Human impacts on the environment such as the ozone issue, global warming/climatic change, groundwater contamination, disease, population and global food supply are discussed. I

Principles of Human Geography

GEOG 1100 ***3 cr. 3 hr.*** ▲ ●

The course introduces the elements and processes underlying economic, social, and political geographic patterns, with applications to actual case studies and situations. I

Earth, Sea, and Air

GEOG 1300 ***3 cr. 4 hr.*** ▲ ●

The course is comprised of selected topics from the earth sciences. Laboratory required. Q

Geology

GEOG 2100 ***3 cr. 4 hr.*** ▲ ●

The course is an introductory survey of the basic elements of physical and historical geology. The class is open to all students. A laboratory is required. GEOG 1000 is strongly suggested. Q

Atmospheres I—Meteorology

GEOG 2200 ***3 cr. 4 hr.*** ▲ ●

The fundamental principles of weather systems are introduced. Emphasis is on mid-latitude phenomena and weather forecasting techniques using data from sites on the Internet. Topics in tropical meteorology and severe storm phenomena are also discussed. Laboratory is required. Q

Atmospheres II—Climatology

****GEOG 2300*** ***3 cr. 3 hr.*** ▲

The course explains the regional differentiation of the climatic zones of the major land and ocean areas of the world. Special attention is given to urban climatology and the energy and moisture climatology of the earth.

Prerequisite: GEOG 2200 Meteorology or permission of the Instructor.

Computer Applications in Geography/ Earth Science

GEOG 2400 ***3 cr. 3 hr.*** ▲ ●

Introduction to four spheres of relevance to the Geosciences: the Internet as a source of data, educational software, computer mapping, and overview of Geographic Information Systems.

Prerequisite: GEOG 1000 and permission of the Instructor.

Oceanography

GEOG 2500 ***3 cr. 4 hr.*** ▲ ●

The course studies the physical and chemical properties of sea water, atmosphere interaction with the sea surface, and currents and volume flow. In addition the energy budget of the oceans and the submarine geology of the ocean basins are explored. Students participate in a thorough discussion of ocean floor spreading and coastal processes. Laboratory is required. Q

Map Use

GEOG 2800 ***3 cr. 3 hr.*** ▲ ●

This course considers the nature and role of maps in communicating aspects of the earth's natural and human environments. Skills learned include map reading, relating map symbols to real world features; map analysis, extracting information from maps; and map interpretation. I

Introduction to Secondary School Teaching

GEOG 2860 ***3 cr. 3 hr.*** ▲

This course is required of all students entering a provisional certification program at the secondary level. It is a sophomore level course for full-time undergraduates and the first course taken by transfer and certification only students. Students become familiar with the complexities of secondary school teaching and its demands. The course gives faculty the opportunity to screen students and give students the opportunity to test their commitment to teaching. This course includes a pre-practicum requirement and is a prerequisite for other certification course requirements.

Economic Geography

****GEOG 3000*** ***3 cr. 3 hr.*** ▲

The course analyzes factors underlying the spatial distribution of primary, secondary, and tertiary economic activities, with emphasis on locational processes in commercial economics. I, C, IDIS

Political Geography

****GEOG 3100*** ***3 cr. 3 hr.*** ▲

The course examines dependent and independent political units, boundary disputes, strategic areas, buffer zones, and the function of international organizations.

U.S. and Canada

****GEOG 3200*** ***3 cr. 3 hr.*** ▲ ●

The course includes U.S. and Foreign Area Studies. Students conduct regional and systematic analysis based upon geographic elements influencing domestic evolution and international relations.

Prerequisite: GEOG 1000.

Introduction to Historical Geology

GEOG 3250 ***3 cr. 4 hr.*** ▲

This course studies the physical history of the earth based on evidence from the rock and fossil records from the early Paleozoic Era through the present. The evolution of life forms, subjective and absolute dating methods, fossil identification, and fossil evidence supporting plate tectonics theory are some of the topics studied. Laboratory is required.

Prerequisite: GEOG 2100 or permission of Instructor.

Common Rocks and Minerals
GEOG 3270 ***3 cr. 4 hr.*** ▲
Major rock and mineral types are studied. Considerable time is spent on field and laboratory identification techniques. Mineral crystal systems and rock and mineral forming processes are also studied. Laboratory is required.
Prerequisite: GEOG 2100, CHEM 1300.

Population Geography
GEOG 3400 ***3 cr. 3 hr.*** ▲
The course addresses population processes and characteristics relative to resources in both economically developed and underdeveloped countries and regions. Course material provides both a systematic and regional view of world population problems. I

Geographic Information Systems
GEOG 3500 ***3 cr. 3 hr.*** ▲ ●
Characteristics and applications of GIS in a computerized, desktop mapping environment. Focus on gaining competence in the use of one from among several GIS programs, namely, ArcView, Idrisi, or MapInfo.
Prerequisite: GEOG 1000 and permission of the Instructor.

Atmospheres III—Planetary Atmospheres
****GEOG 4110*** ***3 cr. 3 hr.*** ▲
This course seeks to explain the similarities and differences between the earth's atmosphere and the atmospheres of the planets and moons in our solar system. Each atmosphere is studied to determine its chemical composition, thermal structure, energy budget, pressure, wind systems, clouds, precipitation, and other pertinent meteorological phenomena.
Prerequisite: GEOG 2200.

Geomorphology
GEOG 4200 ***3 cr. 4 hr.*** ▲
The course provides a comprehensive study of land forms and their origins. Laboratory is required.
Prerequisite: GEOG 2100, Geology or permission of the Instructor.

Structural Geology
GEOG 4220 ***3 cr. 4 hr.*** ▲
Offered in the fall semester in even years for day students.
This course studies rock structures developed by the application of deformational forces. Topics covered include the elementary concepts of stress and strain and the geometry of joints, faults, folds, foliations and lineations. Q
Prerequisites: PHYS 2300, MATH 1300 or permission of the Instructor.

Urban Geography
****GEOG 4400*** ***3 cr. 3 hr.*** ▲
The course analyzes the external relationships and internal structure of cities. Emphasis is placed on the spatial attributes of contemporary urban qualities and problems in America. Classroom activities are supplemented by applied studies in the greater Fitchburg-Leominster area.

Remote Sensing of the Environment
GEOG 4500 ***3 cr. 4 hr.*** ▲
Techniques in the use of satellite and aerial imagery as applied to landscape analysis and resource management are studied. Laboratory is required.
Prerequisite: GEOG 2100.

Environmental Hydrogeology
GEOG 4600 ***3 cr. 4 hr.*** ▲
A case study approach is used to apply basic principles of geology to environmental problems caused by flooding, groundwater contamination, pollution due to human activity, and landslides, among other topics. Laboratory is required.
Prerequisite: GEOG 2100 or GEOG 4200.

Geographic Perspectives on Conservation
****GEOG 4700*** ***3 cr. 3 hr.*** ▲
The course provides an analysis of natural resources problems arising from changes in technology, population pressure, and concern with the quality of environment.
Prerequisite: GEOG 1000.

Cartography I
GEOG 4800 ***3 cr. 3 hr.*** ▲
The course treats the principal aspects of cartography as a communication process. Taken into consideration are the nature and purpose of mappable information, elements of map design, and methods involved in map construction.

Cartography II
****GEOG 4820*** ***3 cr. 3 hr.*** ▲
Emphasis is on the compilation, layout, and design of maps. Students are involved in the construction of maps using traditional as well as computerized methods.
Prerequisite: GEOG 4800.

Special Methods in Teaching Earth Science
GEOG 4850 ***3 cr. 3 hr.*** ▲
The course reviews lesson planning, selection of materials, curriculum development, and relevant research.
Prerequisites: ENGL 4700 and EDUC 3010.

Earth Science Practicum in a Secondary School I and II
GEOG 4860, 4870 ***12 cr.*** ▲
For the Teaching Practicum in earth science, students are assigned to cooperating schools for a semester of student teaching.

Independent Study in Geography
GEOG 4900 ***1, 2, 3 cr.*** ▲ ●
The Independent Study provides exceptional students with the opportunity to do research with faculty guidance in a subject or problems of geographic significance.
Prerequisites: 12 hrs. of Geography and permission of Instructor. Hours and credit by arrangement.

Internship in Geography
GEOG 4940, 4950, 4960 ***3, 6, 12 cr.*** ▲
The Internship provides work experiences in private and governmental concerns. Assignments depend on the needs of the participating agency and interests and vocational objectives of the student.
Prerequisites: junior or senior standing and permission of Internship Coordinator.

Directed Study
GEOG 4975 ***1-6 cr.*** ▲ ●

Topics in Geography
GEOG 5000 ***3 cr. 3 hr.*** ▲ ●
Courses having a more narrow focus or those taught on an irregular basis may be offered under the "Topics" heading. New courses may also be taught on an experimental basis under this title.

German

Key to Course Offerings

Q: designates courses in the Quantitative Scientific Cluster

I: the Ideas and Events Cluster

B: the Human Behavior Cluster

L: the Literature, Language and Arts Cluster

C: Multicultural

IDIS: Interdisciplinary courses

Multicultural and interdisciplinary courses also fulfill a cluster designation.

* Asterisk indicates that the course may be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

German for Beginners I

GER 1000 ***3 cr. 3 hr.*** ▲ ●

The correct pronunciation, reading ability, and fundamentals of grammar and syntax are taught in this class. Over the semester German gradually becomes the working classroom language. Student use German language films, cassettes, and Apfeldeutsch, a computer course for German, as part of their instruction. Students with two or more years of German are not admitted without permission of the Instructor. L, C

German for Beginners II

GER 1100 ***3 cr. 3 hr.*** ▲ ●

This class is a continuation of GER 1000. L, C

Intermediate German I

GER 2000 ***3 cr. 3 hr.*** ▲

This course includes practice in conversation as well as readings stressing life, customs, and culture of Germany. L, C

Prerequisites: two years of high school German or GER 1000 and GER 1100.

Intermediate German II

GER 2100 ***3 cr. 3 hr.*** ▲

This class is a continuation of GER 2000. L, C

Modern German Literature in Translation

****GER 2800*** ***3 cr. 3 hr.*** ▲

The course introduces the varied creativity of German writers of fiction, drama, and poetry of the 20th century. The German film contribution of the 1920's with feature-length films is included. Readings are in translation and the course is conducted in English.

Modern German Culture: "The Road to Hitler"

****GER 2900*** ***3 cr. 3 hr.*** ▲

The course examines the cultural factors in music, art, literature, and film, which illuminate the events leading to National Socialism. Readings focus on translated materials, especially in literature, which help to explain why the Germans embraced Adolph Hitler. The class includes a significant audio-visual component and is given in English. I

German Conversation and Composition

****GER 3500*** ***3 cr. 3 hr.*** ▲

This course is designed to increase the student's ability to write and speak German. Students are expected to write compositions on topics developed orally in class.

Prerequisite: GER 2100 or permission of Instructor.

Independent Study in German

GER 4901 ***1 cr. 1 hr.*** ▲ ●

Independent Study in German

GER 4903 ***3 cr. 3 hr.*** ▲ ●

The Independent Study is open to students studying German with the permission of the supervising Instructor and the Department Chairman. Meeting times and credit are arranged with approval.

Directed Study

GER 4975 ***1-6 cr.*** ▲

Topics in German

GER 5000 ***3 cr. 3 hr.*** ▲

Courses having a more narrow focus or those taught on an irregular basis may be offered under the "Topics" heading. New courses may also be taught in an experimental basis under this title.

Graphics

Key to Course Offerings

* Asterisk indicates that the course may be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

Interdisciplinary Graphics Seminar

▲

Through lectures, presentations by speakers, and projects, students study advanced topics in graphics. The topics are chosen to emphasize state-of-the-art technologies in graphics. The course is administered by faculty from the Graphics Center and the material varies from semester to semester to meet the needs and interests of the participants.

History

Key to Course Offerings

Q: designates courses in the Quantitative Scientific Cluster

I: the Ideas and Events Cluster

B: the Human Behavior Cluster

L: the Literature, Language and Arts Cluster

C: Multicultural

IDIS: Interdisciplinary courses

Multicultural and interdisciplinary courses also fulfill a cluster designation.

* Asterisk indicates that the course may be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

World Civilizations I

HIST 1000 ***3 cr. 3 hr.*** ▲ ●

This course covers the beginnings of humanity to 1350. It investigates ancient empires and the development of the great world religions. The interdependence of Eurasia is stressed while the independent existence of the Amerindian and African empires is also explored. I, C

World Civilizations II

HIST 1100 ***3 cr. 3 hr.*** ▲ ●

This course investigates the period 1350-1815. The rise of Europe, the resurgence of Islam, the alteration of the Americas, and the continued independent existence of Asiatic and African empires is studied. Additional emphasis is placed on worldwide interdependence. I, C

World Civilizations III

HIST 1150 ***3 cr. 3 hr.*** ▲

This course studies the major wars as well as the social, economic, and political changes in the world from 1815 to the present. Major themes covered are nationalism, global interdependence, and the effects of technology upon peoples. I, C

United States History I

HIST 1400 ***3 cr. 3 hr.*** ▲ ●

The course is a survey of United States History beginning with colonial times and continuing through the era of Reconstruction following the Civil War. I

United States History II

HIST 1500 ***3 cr. 3 hr.*** ▲ ●

The course is a survey of the United States from 1877 to the present. I

Note: All history courses at or above the 2000 level have as a prerequisite, Writing II (ENGL 1200)

Early Christianity and Judaism

HIST 2050 ***3 cr. 3 hr.*** ▲

The course is a survey of major cultures of the Mid East that shaped the history of Judaism and Christianity in period 300-500 AD Focus is on the life ways of different groups using archaeological and literary records. I

Twentieth-Century Europe

HIST 2100 ***3 cr. 3 hr.*** ▲

This course studies culture, science, and social developments as well as domestic and international politics from the first World War to the present. I

Twentieth-Century Germany

HIST 2150 ***3 cr./ 3 hr.*** ▲

This course surveys the history of modern Germany from the origins of the Weimar Republic and National Socialism through German reunification. I

Holocaust

HIST 2160 ***3 cr. 3 hr.*** ▲

This course surveys the Holocaust, examining the experience of victims, perpetrators "bystanders," and survivors. I

British History to 1688

HIST 2200 ***3 cr. 3 hr.*** ▲

The course studies the development of English government and culture from the earliest times to the Glorious Revolution of 1688. I

British History Since 1688

HIST 2250 ***3 cr. 3 hr.*** ▲

The course studies the industrial and agricultural revolutions as well as the evolution of the British Empire and Commonwealth. The position of Britain in the world today is also discussed. I

African-American History

HIST 2300 ***3 cr. 3 hr.*** ▲

The course is an investigation of the historical development of the black man in the United States from his West African origins to the present. Emphasis is placed on the role the black population played in the economic, political, and social life of the United States. I, C

Eastern Amerindian History

HIST 2370 ***3 cr. 3 hr.*** ▲

This course includes the study of major cultures of Amerindians of Eastern North America and Caribbean from prehistoric times through contacts with European colonizers. Course work includes the use of archaeological, anthropological, literary, and historical records. I, C

Western Amerindian History

HIST 2380 ***3 cr. 3 hr.*** ▲

The course studies the major cultures of Amerindians West of Mississippi River and Meso America from prehistoric times through contacts with European colonizers. Course work includes the use of archaeological, anthropological, literary, and historical records. I, C

Massachusetts History

HIST 2400 ***3 cr. 3 hr.*** ▲

The course studies the political, social, and economic trends of the Bay State from Plymouth Rock to the Kennedy clan. I

Women in U.S. History to 1870

HIST 2490 ***3 cr. 3 hr.*** ▲

The course is a multicultural examination of women of all roles and classes in the pre-colonial era through 1870. The "lady and the mill-girl" polarity in the antebellum era, the emergence of the women's rights movement, and women in Victorian culture are covered. I, C

Women in U.S. History: 1870 to the Present

HIST 2500 ***3 cr. 3 hr.*** ▲

The course studies women in America, including the struggle against discrimination and for the ballot as well as the history of various women's groups. Emphasis is placed on women of all roles, classes, and ethnicity. I, C

African-American Women's History

HIST 2520 ***3 cr. 3 hr.*** ▲

A study of African-American women's history from slavery through the Civil Rights Movement (1860–1964), this course focuses on the effects of race, class and gender on the interactions of these women among themselves, as well as interactions with white women and men and African-American men. I, C

U.S. Military Experience

HIST 2600 ***3 cr. 3 hr.*** ▲

The class surveys the American wars from the Revolution until today. Course work stresses the changing roles of infantry, cavalry, and artillery over time and also examines the concept of national security at various historical times and under varying conditions. I

Mexico, Central America, and Caribbean History

HIST 2700 ***3 cr. 3 hr.*** ▲

Both HIST 2700 and 2750 survey pre-Columbian and Colonial backgrounds. The clash and fusion of cultures and the evolution of today's Latin American civilizations as they relate to specific geographical areas is covered. I, C, IDIS

South American History

HIST 2750 ***3 cr. 3 hr.*** ▲

See HIST 2700. I, C, IDIS

Far East before 1800

HIST 2800 ***3 cr. 3 hr.*** ▲

The class examines the development of Chinese, Japanese, Korean, and South East Asian Civilization from the earliest time until the middle 19th century period. Political, military, and economic background is covered, but special emphasis is placed on cultural history. I, C

Modern Far East

HIST 2850 ***3 hr. 3 cr.*** ▲

The class covers the development of Chinese, Japanese, Korean, and South East Asian Civilizations from 19th century to the present. I, C

Introduction to Secondary School Teaching

HIST 2860 ***3 cr. 3 hr.*** ▲

This course is required of all students entering a provisional certification program at the secondary level. It is a sophomore level course for full-time undergraduates and the first course taken by transfer and certification-only students. Students become familiar with the complexities of secondary school teaching and its demands. The course gives faculty the opportunity to screen students and give students the opportunity to test their commitment to teaching. This course includes a pre-practicum requirement and is a prerequisite for other certification course requirements. This is a professional course and may **not** be taken as a history elective.

Middle East History Since 1500

HIST 2920 ***3 cr. 3 hr.*** ▲

The course covers political, cultural, religious, and military history of the Modern nation states of Middle East. The rise and fall of the Ottoman Empire is also covered. I, C

Modern African History

HIST 2930 ***3 cr. 3 hr.***

A survey of 19th and 20th century African history, this course investigates the slave trade, imperialism, development and the rise of African nationalisms. I, C

Irish History to 1850

HIST 3100 ***3 cr. 3 hr.*** ▲

Irish History is studied through significant events such as the Rebellion of 1798, the Act of Union, O'Connell, and Catholic emancipation, the rise of Irish nationalism, and the great famine of 1845–50. I

Irish History, 1850 to the Present

****HIST 3150*** ***3 cr. 3 hr.*** ▲

The course examines the Home Rule movement, Parnell and the land league, the Celtic revival, the rebellion of 1916, and the civil war. The Republic of Ireland and Ulster in the twentieth century is also covered. I

India Since 1500

HIST 3200 ***3 cr. 3 hr.*** ▲

This course discusses the political and cultural legacies of the Mughals, the British, and the nationalist movement. It addresses the contributions of Islamic and European rulers and the dramatic social and economic changes that were set in motion from the sixteenth century. I, C

Modern Russia

HIST 3300 ***3 cr. 3 hr.*** ▲

The class is an intermediate level survey of the major cultural and political forces, which have shaped the modern Russian state. The course traces the development of Russia from its origins in 10th century Kiev, through the Mongol period, and culminates with an overview of Russian political, cultural, and intellectual history up to the 1917 revolution. I, C

20th-Century Russia

HIST 3350 ***3 cr. 3 hr.*** ▲

This class is an intermediate level survey of 20th century Russian history from 1917 to the revolutionary developments of the Gorbachev era. Emphasis is placed on the events and forces that led to the Russian Revolution in 1917, the establishment of the Soviet Government, the role and character of the Communist party, the Khruschev era, and concludes with the "2nd Russian Revolution." I, C

The Age of Revolutions

****HIST 3400*** ***3 cr. 3 hr.*** ▲

The class covers the major political, social, and cultural developments in France, England, and the United States during the age of the American, French, and Industrial Revolutions, 1763-1848. The meaning and applicability of the term "revolution" is examined, and there are a series of case studies in topics such as art and politics, romanticism, and the religious revival in England.

Women in European History Since 1700

****HIST 3450*** ***3 cr. 3 hr.*** ▲

This is an advanced course in European Women's History beginning in 1700 with the changes leading to the French Revolution and continuing to today with the new revolutionary changes in Eastern Europe. The effects of historical events and policies on the lives of French, British, Irish, Jewish, German, Spanish, Italian, and Russian Women is examined. I

American Colonial History

HIST 3500 ***3 cr. 3 hr.*** ▲

This course covers the exploration, settlement patterns, imperial system, social structure, rise of representative government in America, and the 18th-century wars for empires. I

The American Revolution

HIST 3550 ***3 cr. 3 hr.*** ▲

The course covers the coming of the Revolution, war tactics, and strategy, problems of the Confederation period, and the American Constitution. I

The U.S. Civil War and Reconstruction 1830–1877

HIST 3600 ***3 cr. 3 hr.*** ▲

The course examines politics, slavery, and Abolitionism. Political, military, and diplomatic aspects of the war and the failure of reconstruction is also covered. I

U.S. 1880–1920: Society and Culture

HIST 3655 ***3 cr. 3 hr.*** ▲

The major movements of the late nineteenth and early twentieth centuries in United States History are studied in this course, including rise of middle class culture, Populism, urbanization, trade unionism, consumerism, and Progressivism. I

U.S. 1920–1945: Society and Culture

HIST 3700 ***3 cr. 3 hr.*** ▲

This course cover topics in American politics, economics, and society from 1920-1945, with special emphasis on reform movements, the great Depression, and World War II. I

Cold War United States

HIST 3750 ***3 cr. 3 hr.*** ▲

This course explores recent American History from 1945 to 1990. Topics covered in the class include the Cold War, the Arms Race, Watergate, society, the economy, and post-war presidents. Emphasis is placed on Cold War foreign policy as it has affected the United States. I

American Labor, 1840–1960

****HIST 3800*** ***3 cr. 3 hr.*** ▲

The course studies the patterns, personalities, and social tensions involved in the responses of American Labor to the changing economic construction, from the pre-industrial society through the industrial to the post-industrial.
Prerequisites: HIST 1400, 1500.

The U.S. In World Affairs: 1898 to the Present

HIST 3850 ***3 cr. 3 hr.*** ▲

The class examines the age of imperialism. Events covered are World War I, the era of "isolation," origins of World War II, American involvement and wartime diplomacy, breakdown of East-West relations, the Cold War, and the Korean and Vietnam conflicts.

The Frontier in American History

****HIST 3900*** ***3 cr. 3 hr.*** ▲

The Frontier is studied as a historical, social, economic, and psychological process to determine its impact on American development.

"Writing History"

HIST 4000 ***3 cr. 3 hr.*** ▲

The class introduces the historical method with stress on bibliographical aids, historical fallacies, and the theories of history as they have developed. The class is primarily for history majors.

Technology and US Society, 1790-Present

HIST 4100 ***3 cr. 3 hr.*** ▲

This course will explore the history of the US through the lens of technology. Topics to be covered include the pre-industrial era, industrialization, transportation revolutions, urbanization, the rise of engineering, technological systems, the impact of the automobile, the communications revolution, and the ethics of technology.
Prerequisites: HIST 1400 and HIST 1500.

Seminar

HIST 4500 ***3 cr. 3 hr.*** ▲

The seminar provides guided readings and research on a specified topic. It is designed to enrich research and analytical skills of future teachers and those desiring to enter graduate or other professional schools.

Special Methods in Teaching of History

HIST 4850 ***3 cr. 3 hr.*** ▲

Special techniques for the teaching of history and their relationship to the principles of general methods are studied. A Pre-Practicum of 25 hours is required.
Prerequisite: completion of Introduction to Secondary Education.

History Practicum in a Secondary School I and II

HIST 4860, 4870 ***6 cr.*** ▲

In the student teaching practicum students are assigned to cooperating schools for a semester of student teaching. A 3.00 GPA in History is required to enter the practicum.

Independent Study in History

HIST 4900 ▲ ●

The Independent Study is open to students majoring or specializing in history with the permission of the supervising Instructor and the department. Meeting times and credit are arranged upon approval.

Directed Study

HIST 4975 ***1-6 cr.*** ▲ ●

Topics in History

HIST 5000 ***3 cr. 3 hr.*** ▲ ●

Courses having a more narrow focus or those taught on an irregular basis may be offered under the "Topics" heading. New courses may also be taught on an experimental basis under this title.

Human Services

Key to Course Offerings

* Asterisk indicates that the course may be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

Theory, Issues, and Practice in Human Services

HMSV 1100 ***3 cr. 3 hr.*** ▲ ●

This course serves as an introduction to the general field of Human Services. Course goals include an introduction to the scope and nature of Human Services work and the agencies, organizations, and intervention models utilized. Particular focus is on the underlying philosophies, issues, and dynamics in agency/organization function. Guest lecturers from agencies, student presentations, agency reports, and a required practicum experience (30 hours per semester) represent priority activities in the course. This course is a prerequisite to all Human Services courses.

Community Resources

****HMSV 1150*** ***3 cr. 3 hr.*** ▲

This course acquaints students with the services of a variety of public (federal, state, and local) and private voluntary nonprofit agencies, which provide services for various populations. Students learn what services are provided, how to obtain services, how to make referral to these agencies, and how the agencies are operated (including staffing, funding, and administrative aspects of the agencies). This course may emphasize special types of agencies/populations in different semesters.
Prerequisite: HMSV 1100.

Introduction to Criminal Justice

HMSV 2000 ***3 cr. 3 hr.*** ▲ ●

This course provides the student with an overview of the structure and organization of the criminal justice system. Emphasis is placed on the examination of the functions and decision processes of those agencies that deal with the management and control of crime and criminal offenders. The course includes didactic presentations, assigned readings, class discussions, visiting practitioner lecturers, and small group discussions.

Working with HIV/AIDS in Human Services

HMSV 2100 **3 cr. 3 hr.** ▲

This course provides a comprehensive understanding of the psychosocial impact of the HIV/AIDS epidemic as well as appropriate community resources and services for dealing with it. This course examines how the transmission of the HIV virus has significant medical, psychological, social, and political consequences. Each student is expected to become part of community, state, and federal organizational efforts aimed toward preventing the transmission of HIV.

Delivery of Human Service Systems

****HMSV 2200*** **3 cr. 3 hr.** ▲

This course deals with social agencies/ organizations and how they establish goals, priorities, and programs; how they are governed, staffed, and financed; and how each relate to the needs of the people in the area served. Content may differ according to the delivery system being addressed. A practicum (20 hours per semester) is required.

Prerequisite: HMSV 1100.

Introduction to Rehabilitation Counseling

****HMSV 2300*** **3 cr. 3 hr.** ▲

The course provides an overview of the vocational rehabilitation process in the U.S., including its history and governing federal legislation. Emphasis is placed on the medical, psychological, sociocultural, and vocational factors in rehabilitation of handicapped individuals. This course focuses on the role of the Rehabilitation Counselor as a professional in the rehabilitation process.

Prerequisite: HMSV 1100.

Crisis Intervention

HMSV 2400 **3 cr. 3 hr.** ▲ ●

This course focuses on the concepts and techniques of Crisis Intervention. Many individuals are faced with such crisis situations as job loss, unwanted pregnancy, divorce, operations, death and dying. Students are exposed to the specialized short-term techniques that have been developed to help people in these situations. A supervised practicum (30 hrs. per semester) is required.

Prerequisites: HMSV 1100, PSY 2350.

Interviewing Techniques

****HMSV 2500*** **3 cr. 3 hr.** ▲ ●

This course is designed to help the student, whose goal is to be involved in a helping profession, learn about the problems and processes of interviewing while developing basic skills needed to become an effective interviewer. The course includes assigned readings, class discussions, taped interviews, demonstrations, and practice sessions in class. The course meets LAS requirement for Speaking and Listening for the Human Services major and for the Psychology major.

Prerequisites: HMSV 1100, PSY 2350 and permission of Instructor. Students must preregister in the semester prior to the course.

Juvenile Justice

****HMSV 2600*** **3 cr. 3 hr.** ▲

The course is designed to develop student awareness of past and contemporary philosophies, practices, and paradoxes of juvenile justice. The course examines the programmatic efforts designed for juveniles "in trouble with the law" and focuses on the relationships between the components of this system of justice. The content of the course is supplemented by current journal research, lectures, and panel discussions by practicing professionals, and a field-based class. A supervised practicum (20 hours per semester) is encouraged.

Prerequisite: HMSV 2000.

Services to Children

****HMSV 2700*** **3 cr. 3 hr.** ▲

Students examine the variety of services available to children to support, supplement, and substitute for the family. Students learn to understand the structure of the services provided and to explore the ethical dilemmas such services may create.

Prerequisite: HMSV 1100.

Social Work: Theory and Practice

****HMSV 2800*** **3 cr. 3 hr.** ▲

This course deals with the history, concepts, basic issues, and techniques of social work, including casework, group work, and community organization activities. Advanced study and career opportunities are also explored.

Prerequisites: HMSV 1100, SOC 1100.

Social Group Work

****HMSV 2900*** **3 cr. 3 hr.** ▲

The course exposes students to the theories and techniques of working with clients in groups. The course focuses on social group work as a method, its relationship to other social work methods, and to groups therapies. Students have the opportunity to observe and/or lead groups. A supervised practicum (30 hrs. per semester) is required.

Prerequisites: HMSV 1100, HMSV 2500, and permission of Instructor. Students must preregister in the semester prior to the course.

Human Services Administration

****HMSV 3000*** **3 cr. 3 hr.** ▲

The study of Human Services Administration is an exploration of administrative functions and their relationship to organizational effectiveness and efficiency. The internal and external politics of agency survival are addressed, and the theoretical concepts of management and leadership styles are explored. Course content is supplemented by lectures and panel discussions by practicing professionals, field-based classes, and current journal research. A supervised practicum (20 hours per semester) is encouraged.

Prerequisite: HMSV 1100.

Social Casework

****HMSV 3100*** **3 cr. 3 hr.** ▲

This course explores casework concepts and techniques as utilized in a variety of settings, such as family agencies, mental health settings, hospitals, and courts. The focus is on the casework process with individuals, couples, and families.

Prerequisites: HMSV 1100, HMSV 3500.

Working with the Aging

****HMSV 3200*** **3 cr. 3 hr.** ▲

The course examines past as well as contemporary philosophies, practices, and processes of working with the aging. Further, the course explores the various roles and practices utilized by social support and works in maintaining the social, psychological, and physical well-being of the aged. A supervised practicum (20 hrs. per semester) is required.

Community Based Corrections

***HMSV 3300** **3 cr. 3 hr.** ▲

This course examines the philosophy of community-based corrections from historical, legal, social, and psychological perspectives. The essence of probation and parole and their administration are considered in conjunction with criminal justice issues and practices that affect the court's decision to allow community sanctions and supervision in lieu of incarceration. Contemporary trends and alternatives to traditional supervision are explored as well. A supervised practicum (20 hours per semester) is encouraged.
Prerequisite: HMSV 2000.

Community Organization

***HMSV 3400** **3 cr. 3 hr.** ▲

This course focuses on methods used in organizing citizen action groups to bring about change. Principles, methods, and techniques of organizing, goal formulation, group maintenance, community planning, and strategies are studied.
Prerequisites: HMSV 1100, HMSV 2000.

The Abuse and Neglect of Children

***HMSV 3500** **3 cr. 3 hr.** ▲

This course presents an overview of concepts vital to understanding and working with the abusive and neglectful parent. Emphasis is on the differentiation between abuse and neglect, reporting responsibilities, legal aspects, prognosis, prediction, and the role of the community. Case studies are used to enhance student understanding.
Prerequisites: HMSV 1100 and PSY 2200.

Social Welfare Policy

***HMSV 3580** **3 cr. 3 hr.** ▲

This course enables students to learn the importance of social welfare policy, the relationship of values to policy formulation, and how to analyze policy. Students apply this knowledge to income maintenance, poverty, health and mental care, housing and neighborhood living space, as well as to the general problems of service delivery.
Prerequisite: HMSV 1100.

Professional Issues in Human Services

***HMSV 3700** **3 cr. 3 hr.** ▲

This course is designed to develop student awareness of the professional issues that affect the role and responsibilities of the human service professional. Students explore the dilemmas and challenges that face the practitioner within the context of legally and ethically responsible human service work. Through course work the student is able to demonstrate a heightened awareness of one's own values and life experiences and how they affect the helping relationship and process. A stronger knowledge is gained of the rights and responsibilities of both client and helper in the helping relationship and process. Students become aware of the culturally diverse population of clients. An understanding of the major ethical and legal issues confronting practitioners in human services; an appreciation for the necessary competence, training, and education of the practitioner; and an awareness of ethical standards and professional guidelines for human service workers is achieved.
Prerequisites: HMSV 1100.

Methods of Case Reporting and Analysis

***HMSV 3800** **4 cr. 8 hr.** ▲

The class exposes students to the technical and practical skills involved in the process of preparing, recording, presenting, and analyzing individual case reports. Case report applications as they relate to schools, clinics, the courts, and other human service agencies are addressed during the course. A supervised practicum in an approved agency setting (90 hrs. per semester) is required. The course meets the LAS requirement for Writing for the Human Services major.
Prerequisites: HMSV 1100, PSY 2200, PSY 2350, HMSV 2500 and permission of Instructor. Students must preregister in the semester prior to the course.

***HMSV 4870-4880** **6 cr. 18 hr.**

Students work in an agency 18 hours per week throughout the school year, beginning in September. (6 credits each semester.)

***HMSV 4890** **12 cr. 36 hr.**

A block placement of 36 hours per week for one semester, either fall or spring. (12 credits, one semester.)

Field Work in Human Services

***HMSV 4870-4880, 4890** **6 cr. 18 hr.** ▲
12 cr. 36 hr. ▲

Field Work is the structured academic experience that allows Senior Human Services majors, who have successfully met eligibility criteria, to integrate and apply the skills and theory of the Human Services discipline in a field-based setting. Such an experience helps the student develop an understanding of the effects of administrative practices and governing policies on the ability to carry out the responsibilities of his/her field placement.

Students participate in Field Work under the supervision of qualified professionals in Human Service Organizations, such as mental health agencies, social services, hospitals, prisons, family service agencies, probation departments, residential programs, nursing homes, community advocacy organizations, programs for the aging, crisis centers, etc. Also, some placements are conducted in industrial settings, requiring work in community relations, employee assistance programs, personnel departments, corporate donations, and human resource development programs. Placements may be in direct-service or in administrative settings. In addition to the field experience, students participate in a weekly seminar held by the college's supervising professor. Here, students share their experiences and develop a heightened awareness of their roles in the organizations in which they are functioning.

Students must have completed their prerequisites at least one semester before taking Field Work and must preregister with the Field Work/Internship office in the beginning of the semester prior to the semester before they plan to enter an agency, (For example, students planning a Fall placement must have completed their prerequisites by the end of the previous Fall semester and pre-register with the Instructor early in the previous Spring.) Students must have had previous volunteer experience (e.g. practicum) prior to enrolling in Field Work.
Prerequisites: HMSV 2900, HMSV 3800, and successful completion of the Field Work eligibility requirements.

Independent Study
HMSV 4900 ***1-6 cr. 3-18 hrs.*** ▲
Independent Study is offered to outstanding students of Junior or Senior standing and requires approval of the professor, of the Human Services Curriculum Committee, and of the Chairman of the Behavioral Sciences department. Independent Study may take the form of special advanced reading programs or problem identification and research. Under no circumstances is independent study substituted for regularly scheduled courses.

Directed Study
HMSV 4975 ***1-6 cr.*** ▲ ●

Topics in Human Services
HMSV 5000 ***3 cr. 3 hr.*** ▲ ●
Courses having a more narrow focus or those taught on an irregular basis may be offered under the "Topics" heading. New courses may also be taught on an experimental basis under this title.

Industrial Technology

Key to Course Offerings
Q: designates courses in the Quantitative Scientific Cluster

I: the Ideas and Events Cluster

B: the Human Behavior Cluster

L: the Literature, Language and Arts Cluster

C: Multicultural

IDIS: Interdisciplinary courses

Multicultural and interdisciplinary courses also fulfill a cluster designation.

* Asterisk indicates that the course may be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

Electric Systems and Circuits
ITEC 1000 ***3 cr. 4 hr.*** ▲
An introductory course providing an overview of electrical technology with respect to electric production, transmission, control and use. Basic electrical concepts are covered in a lab setting.

Electronics I
ITEC 1100 ***3 cr. 4 hr.*** ▲
This course introduces the principles and techniques used to analyze and design linear circuits with an emphasis on DC circuits. Accompanying laboratory exercises support the material presented in class and introduce experimental techniques.
Prerequisite: ITEC 1000.

Metal Fabrication Systems
ITEC 1200 ***3 cr. 4 hr.*** ▲
The course studies mass production theory, systems, and procedures in metal working.

Wood Fabrication Systems
ITEC 1300 ***3 cr. 4 hr.*** ▲
Fundamental woodworking techniques are studied as they relate to construction and manufacturing. Procedures are practiced through selected laboratory experiences.

Materials Testing
ITEC 1310 ***3 cr. 4 hr.*** ▲
This class provides an overview of selected materials and their properties, including laboratory experiences designed to give students an understanding of materials testing.

Construction Systems I
ITEC 1320 ***3 cr. 4 hr.*** ▲
The course will provide an overview and lab experience in 12 selected construction standards institute components of the construction industry. Through focused lab experiences, students will develop competencies in using the tools, equipment, instruments and techniques essential in the selected areas.

Technical Drawing
ITEC 1400 ***3 cr. 4 hr.*** ▲
This course includes lettering, dimensioning, orthographic projection, symbols, sectioning, isometric, and auxiliary views. Problem development and blueprint reading is stressed.

Architectural Graphics
ITEC 1450 ***3 cr. 4 hr.*** ▲
An introduction to the techniques and understandings involved in the use of drawing as a way of communicating and developing architectural ideas. Drawing is studied as a tool of visualization, exploring and documenting architectural form, organization, the setting of buildings in the land and the quality of light.

Graphic Arts Processes
ITEC 1500 ***3 cr. 4 hr.*** ▲
The course studies the production and evaluation of messages utilizing graphic arts processes. This includes graphic design, typesetting, camera work, stripping, platemaking, and offset press operations.

Typography
ITEC 1510 ***3 cr. 4 hr.*** ▲
The origins of the alphabet, evolution of type, traditional typography, nomenclature, and classification of typefaces are studied. Emphasis is on planning layout; budget considerations; dimensional coordination, proportion, and the grid system; copyfitting, markup, and proofreading; composition and computer and electronic publishing technology.

Energy Systems I
ITEC 1600 ***3 cr. 4 hr.*** ▲
The course studies solar and other forms of energy to supply household needs. Students build and test both commercial and laboratory made devices.

Energy Resources and Environment
ITEC 1650 ***3 cr. 4 hr.*** ▲
The Energy Resources and Environment course offers indepth knowledge of energy supplies and sources. The course treats in detail, topics as how rate of formation is slow than replacement, how energy sources could be best utilized, and to identify the technology associated with energy resources. The course will include some field trips.

Evolution of Industrial Technology
ITEC 1700 ***3 cr. 3 hr.*** ▲
The course studies the history of industrial technology, and the qualifications, duties, and responsibilities of related careers. A field based pre-practicum experience is an integral part of this course. This experience may be in a school or industrial setting. I

Technical Analysis
ITEC 1710 ***3 cr. 3 hr.*** ▲
Applications of mathematics to a variety of technical areas including electronics and mechanics are explored. Topics covered include complex numbers, Lissajou figures, vectors, curve fitting, error analysis, and computer methods.

Computers in Industrial Technology
ITEC 1720 ***3 cr. 4 hr.*** ▲
This course familiarizes students with computers through presentation of selected hardware and software concepts. Opportunities for extensive hands-on practice with application programs are provided.

Women in Science and Technology
ITEC 2000 ***3 cr. 4 hr.*** ▲
We will study the contributions to the advancement of science and technology made by a selected group of women. For each of these women, we will examine her discipline, her contribution to the discipline, and site her in an appropriate historical and cultural setting. I, C, IDIS

Electronics II
ITEC 2100 ***3 cr. 4 hr.*** ▲
This course continues to study the principles and techniques of circuit analysis and design with an emphasis on AC circuits. Electronic circuits employing discrete devices are introduced. Accompanying laboratory exercises reinforce concepts and introduce advanced measuring movements.
Prerequisite: ITEC 1100.

Laser Technology
ITEC 2110 ***3 cr. 4 hr.*** ▲
This course examines industrial applications of lasers. I covers laser principles and operating characteristics and treats the safety aspects of laser use. Selected applications illustrate the use of lasers in industry. Laboratory experiences reinforce the lecture material.

Advanced Metal Fabrication Systems
ITEC 2200 ***3 cr. 4 hr.*** ▲
Specialized processes in the metal working industry are studied. Laboratory experiences include performing operations with tool cutter grinders, indexing heads, numerical control millers, turret lathes, and tracer lathes.
Prerequisite: ITEC 1200.

Wood Products Manufacturing
ITEC 2300 ***3 cr. 4 hr.*** ▲
In this course emphasis is on the mass production of a product employing the development and use of jigs, fixtures, and other suitable mass production procedures. Appropriate methods of production management are employed.
Prerequisite: ITEC 1300.

Construction Systems II
ITEC 2310 ***3 cr. 4 hr.*** ▲
The course studies residential construction with emphasis on construction methods, practices and procedures. The materials, equipment, and techniques used to construct a structure are examined, and architectural problems related to construction are researched. The course is taken with ITEC 2400.
Prerequisites: ITEC 1320.

Architectural Drawing
ITEC 2400 ***3 cr. 4 hr.*** ▲
Students design a practical residential structure, conforming to standard practices and Building codes. Technical skills are developed enabling students to communicate ideas. Topics discussed and employed include materials of construction, history, and development of various styles, orientation of house on lot, loads, and design of structural members. Field trips are taken and available films are used for instruction. The course is taken with ITEC 2310.
Prerequisite: ITEC 1400 or ITEC 1450.

Computer Aided Drafting (CAD)
ITEC 2410 ***3 cr. 4 hr.*** ▲
Drafting techniques will be reviewed and applied while completing a series of exercises using computer assistance. An emphasis will be placed on drawings commonly experienced in fields of engineering and architecture. Major projects will allow individuals the opportunity to pursue interest topics. A background of computer experience is helpful, but not necessary.
Prerequisite: ITEC 1400 or ITEC 1450, ITEC 1720.

Theory of Architecture
ITEC 2450 ***3 cr. 4 hr.*** ▲
Architectural situations will be explored that illustrate design theories both traditional and contemporary. Accepted construction techniques will be selected that best fulfill design situations. Emphasized will be the difficulties confronting designers as they resolve problems of conflict.
Prerequisite: ITEC 1320.

Offset Lithography
ITEC 2500 ***3 cr. 4 hr.*** ▲
The students study the lithographic form of printing as it is used in modern industry. The majority of the course is spent in the darkroom as well as setting up and running offset presses. Concepts covered include line copy, halftone, special effects, diffusion transfer, and density. Roles students pursue are designer, photographer, flat-stripper, platemaker, press operator, and binder.
Prerequisite: ITEC 1500.

Graphic Design
ITEC 2520 ***3 cr. 3 hr.*** ▲
Students study the design and production of messages. Students prepare artwork and mechanicals using equipment found in the Industrial Technology Department. The technology of communications is also included.
Prerequisite: ITEC 1500 (credit will NOT be given for both COMM 3810 and ITEC 2520.)

Screen Printing
ITEC 2550 ***3 cr. 4 hr.*** ▲
Students work with both hand-cut stencils and photo-direct emulsions. Emphasis is on multiple color registration and halftoning, using both hand and machine printing techniques. L

Energy Systems II
ITEC 2600 ***3 cr. 4 hr.*** ▲
The course is limited to students who have demonstrated the ability and desire to continue the research and development of a promising solar energy system as initiated in ITEC 1600.
Prerequisites: ITEC 1600.

Power and Lighting Systems
ITEC 2630 ***3 cr. 4 hr.*** ▲
Power and Lighting Systems course offers indepth knowledge of effective, efficient illumination and retrofitting. The course treats in detail, many topics such as smart house, temporary service and collect building, lighting system, financial and occupant information and apply that to required light levels per room and address quality issues such as lamp identification, lighting circuits and lighting codes. Students will develop and present plans for specific lighting systems as a part of laboratory work. The course will include field trips to active sites and research facilities.
Prerequisites: ITEC 1000.

Man Technology Society
ITEC 2700 ***3 cr. 3 hr.*** ▲
The course studies the universal characteristics of technology, including effects of technology on society and culture. Topics of interest are researched. I, IDIS

Statics
ITEC 2710 ***3 cr. 3 hr.*** ▲
The course involves the study of laws of static equilibrium of real bodies. Topics examined are beam and structural analysis, friction, centroids, and moments of inertia.
Prerequisite: ITEC 1710.

Automated Manufacturing I
ITEC 2730 ***3 cr. 4 hr.*** ▲
Students are introduced to the essential technologies used in automated manufacturing through extensive practice in computer-controlled machining, robotics, and pneumatic and hydraulic control systems.

O.S.H.A.
ITEC 2740 ***3 cr. 4 hr.*** ▲
The purpose of this course is to introduce students to the latest occupational safety and health standards and to provide opportunity for the student to perform practical inspections, complete reports, and recommend corrective measures to insure safety and healthful conditions. This is a basic O.S.H.A. 500 course.

Plastics Technology
ITEC 2750 ***3 cr. 4 hr.*** ▲
The course is an investigation of the rapidly expanding area of plastics. Emphasis is on plastics production, their merits, and limitations. Tests are conducted to confirm reference data and to promote a better understanding of various plastics and products made from them.

Designing and Planning
ITEC 2900 ***3 cr. 4 hr.*** ▲
Elements of product design are experienced through problem solving. Drafting, human engineering, and product analysis are incorporated in design and construction of prototypes.
Prerequisites: ITEC 1710 and four of the appropriate freshman level courses.

Electronics III
ITEC 3100 ***3 cr. 4 hr.*** ▲
This course further develops the concepts and techniques appropriate to the design and analysis of analog electronic circuits. It provides sufficient background for students who wish to elect upper-level electronics courses.
Prerequisites: ITEC 2100.

Digital Electronics
ITEC 3110 ***3 cr. 4 hr.*** ▲
The course is an introduction to the techniques for analyzing and synthesizing digital circuits. Emphasis in design work is on IC technology.
Prerequisites: ITEC 3100.

Control Theory
ITEC 3120 ***3 cr. 4 hr.*** ▲
The course is an introduction to control theory utilizing examples of mechanical, fluidic, electronic, and hybrid control systems. Emphasis is on design, utilizing the project approach.
Prerequisite: ITEC 3100.

Lasers in Industry
ITEC 3130 ***3 cr. 4 hr.***
This course will examine the mechanics of lasing and the particular attributes lasing impacts to the emitted light. It will highlight industrial applications of lasers which utilize these attributes.

Machine Processes
ITEC 3210 ***3 cr. 4 hr.*** ▲
The course covers the design and fabrication of metal products utilizing machine tools, metalworking processes, and welding.
Prerequisite: ITEC 2200.

Product Modeling and Rendering
ITEC 3220 ***3 cr. 4 hr.*** ▲
A laboratory course focusing on the preparation of product renderings and the development of three dimensional models for presentation and analysis of design products, processes or systems. The course will cover the types and uses of renderings and models; techniques and standards in their development; and appropriate material representation.
Prerequisite: junior status.

Estimating and Bidding
ITEC 3300 ***3 cr. 4 hr.*** ▲
The principles of preparing comprehensive unit pricing and systems approach for construction is taught in this course. The emphasis is on detailed estimates in order to determine the scope and cost of each proposed design element.
Prerequisite: ITEC 2400.

Mechanical and Plumbing Systems
ITEC 3310 ***3 cr. 4 hr.*** ▲
The course surveys the principles of heating, ventilating, air conditioning, purification, and control systems. Emphasis is placed on electrical and electronic control and delivery systems, water feed delivery systems, and waste water disposal systems.
Prerequisites: ITEC 2310, 2400.

Construction Supervision
ITEC 3320 ***3 cr. 4 hr.*** ▲
This course enhances the student's understanding and skills for supervising a construction project. The emphasis is on coordinating all of the construction resources, including materials and manpower, needed for the successful completion of on-site structure.
Prerequisites: ITEC 3300, 3410.

Wood Technology
ITEC 3330 ***3 cr. 4 hr.*** ▲
Students are introduced to a series of industrial techniques through which lumber is used to produce products. Veneering, patternmaking, model building, finishing, laminating, and bending are some of the techniques explored.
Prerequisite: ITEC 1300.

Construction Systems III
ITEC 3340 ***3 cr. 4 hr.*** ▲
The course is a study of construction techniques and structural elements. Emphasis is placed on heavy construction procedures used in commercial and industrial projects. The course is taken with ITEC 3410.
Prerequisites: ITEC 2310, 2400.

Engineering Drawing

ITEC 3400 ***3 cr. 4 hr.*** ▲

In this course students examine orthographic projection, intersections, developments, revolutions, axonometrics, assembly details, and pictorial drawings.

Prerequisites: ITEC 1400, 2410.

Drafting Commercial Structures

ITEC 3410 ***3 cr. 4 hr.*** ▲

Students develop and produce working drawings, demonstrations, information schedules, and portfolios related to the construction of non-residential properties. The course is taken with ITEC 3340.

Prerequisites: ITEC 2400, 2310.

Architectural Design I

ITEC 3430 ***3 cr. 4 hr.*** ▲

Designing living spaces will be emphasized during this studio session. The common problems presented by the multiple home activities of house cleaning and maintenance, storage, meal preparation and eating, personal hygiene, child rearing and aging, entertainment, safety, security, etc. will be within the purview of this study. The visual analysis of existing space will be emphasized. Ergonomics and human behavior will be important areas of consideration.

Prerequisite: junior status.

Advanced CAD

ITEC 3450 ***3 cr. 4 hr.*** ▲

Students study and use advanced Computer Aided Drafting techniques to create two- and three-dimensional surface and solid model drawings applicable to their ITEC concentration area. Selected drawings and a term project are included in a student-developed portfolio.

Prerequisite: ITEC 2410.

Architectural Design II

ITEC 3460 ***3 cr. 4 hr.*** ▲

Select problems will be completed through which architectural fundamentals will be explored. Individual and group activities will introduce the topics of land site analysis and improvements; structured forms and applied materials; lighting and color considerations; the applications of scale and proportion; and the organization of space. Solutions will be presented in appropriate portfolio form.

Prerequisite: ITEC 3430.

Production Printing

ITEC 3510 ***3 cr. 4 hr.*** ▲

This course emphasizes scheduling and production of contracted jobs. The course is designed to allow serious students to apply their previous instruction in a controlled, industrial setting. Enrollment is limited to ten students.

Prerequisites: ITEC 2500.

Printing Estimating and Production Coordination

ITEC 3520 ***3 cr. 3 hr.*** ▲

This course provides students with an opportunity to determine how to estimate printed products properly. Relationships between the estimating department, sales, customer service, order writing, and production departments are covered.

Prerequisite: ITEC 2500.

Energy Conservation Principles

ITEC 3600 ***3 cr. 4 hr.*** ▲

This laboratory course offers in-depth knowledge of energy efficiency, conservation retrofits, and choosing appropriate strategies. Cases are discussed regarding the reduction of energy losses and the application of energy conservation techniques for building control systems. Students develop and present plans for specific energy conservation projects that include field trips to sites and research facilities.

Co-Generation and Waste Recovery

ITEC 3650 ***3 cr. 4 hr.*** ▲

The Co-generation and Waste Recovery Systems course will focus on analyzing engineering and co-generation systems to meet industrial process needs and use of reject heat to integrate with the production plant. The course will also cover responsibilities of co-generators and their interconnection cost. Students will run computer programs for metering practices and other metering options.

Prerequisites: ITEC 1600, 2600.

Fluid Power Technology

ITEC 3700 ***3 cr. 4 hr.*** ▲

This course introduces the student to applications of fluid power in a variety of industries. Topics covered include properties and behavior of liquids and gases, schematic diagrams for hydraulic and pneumatic circuits, component uses and characteristics, methods of controlling fluid power systems, circuit design and analysis, and uses of hydraulic/pneumatic systems in automated manufacturing.

Prerequisite: ITEC 1710.

Quality Control

ITEC 3710 ***3 cr. 4 hr.*** ▲

The course studies the development and utilization of those statistical methods that enhance quality control within a manufacturing environment. Lab work includes the use of a variety of inspection instruments and small scale testing is done to generate data.

Prerequisite: ITEC 1710.

Automated Manufacturing II

ITEC 3730 ***3 cr. 4 hr.*** ▲

This course requires students to successfully integrate the technologies studied in Automated Manufacturing I into working CIM (Computer-Integrated Manufacturing) systems.

Prerequisites: ITEC 2730.

HAZWOPER

ITEC 3740 ***3 cr. 4 hr.*** ▲

This is an OSHA-approved hazardous waste operations and emergency response course (OSHA 1910.120). Topics covered include OSHA regulations for this area, exposure risks, material handling practices and equipment, decontamination procedures, and the requirements of OSHA 1910.120.

Methods of Teaching Technology Education

ITEC 3800 ***3 cr. 3 hr.*** ▲

This course is designed to provide the prospective technology education teacher with a series of related academic, observational, and participatory experiences based on the fundamental elements of the teaching-learning process. Students develop, implement, and evaluate a variety of short-range instructional methods.

Prerequisite: junior status.

Curriculum Development in Technology Education

ITEC 3810 ***3 cr. 4 hr.*** ▲

During this course the student is presented experiences that relate directly to the development of a course of study. Students also have the opportunity to analyze and develop strategies pertaining to curriculum development. Students undergo a pre-practicum in a public school technology education program.

Prerequisite: ITEC 3800.

Production Planning and Control

ITEC 3900 **3 cr. 3 hr.** ▲

Theory and practice in the essentials necessary for the operation of a manufacturing or service facility are the main thrust of this course. Layout of production, line operations, time study requirements, and related work problems resulting in an economical and efficient operation are included.

Prerequisites: junior status.

Engineering Experimentation

ITEC 3910 **3 cr. 4 hr.** ▲

Using a series of open-ended projects, this course prepares the student to work independently in a variety of technical areas. Topics covered include: the creative process, research using technical literature, error analysis for single-sample and multi-sample experiments, types of instrumentation, and technical report writing. This course satisfies the junior-level writing requirement for industrial technology students.

Prerequisite: junior status.

Strength of Materials

ITEC 3930 **3 cr. 4 hr.** ▲

This course serves as an introduction to the behavior of real materials under the influence of forces and couples. Axial, shear, torsional, and flexural stresses and strains are determined.

Prerequisites: ITEC 2710.

Industrial Electronics

ITEC 4100 **3 cr. 4 hr.** ▲

The course studies the application of electronic principles to devices and equipment, involving thermoelectronics, photoelectronics, solid-state motor control, welding, etc.

Prerequisite: ITEC 3100 and by permission of Instructor.

Electronic Communications Systems

ITEC 4110 **3 cr. 4 hr.** ▲

The system and circuits utilized in electronic communications are studied, including both transmitters and receivers. Methods of modulation are discussed and television is utilized as a representative system.

Prerequisite: ITEC 3100 and by permission of Instructor.

Microprocessor-Based Control Systems

ITEC 4120 **3 cr. 4 hr.** ▲

This course covers hoth hardware and software. Thc hardware portion includes a necessary introduction to the microprocessor itself and emphasizes interfacing the use of microprocessors to affect control. The software portion provides a neccssary skill level in machine language programming.

Prerequisite: ITEC 3100.

Design of Machine Elements

****ITEC 4220*** **3 cr. 3 hr.** ▲

The course introduces design principles and failure modes for various mechanical components. Topics covered include static and fluctuating Loads for brittle and ductile materials and fatigue stress concentrations.

Prerequisites: ITEC 3400, 3930.

Seminar in Construction

ITEC 4310 **3 cr. 4 hr.** ▲

This course is open to students specializing in construction. The course deals with current trends and issues facing the construction industry at local, state, and federal levels. The emphasis is on utilizing available resources to solve current problems.

Prerequisites: ITEC 3300, 3320.

Site Planning

ITEC 4350 **3 cr. 4 hr.** ▲

The scope of this study will entail the problems presented to a designer by an unimproved land site. Proper design concepts will be applied as techniques and materials are selected. Solutions will be presented in the form of drawings and estimated costs. Legalities relating to construction codes and zoning will be emphasized.

Prerequisites: junior status.

Descriptive Geometry

****ITEC 4400*** **3 cr. 3 hr.** ▲

Descriptive Geometry is concerned with graphical representation and the problem solving using spatial relationship of points, lines, and planes by means of projections.

Prerequisite: ITEC 3400.

Architectural Professional Practices

ITEC 4470 **3 cr. 4 hr.** ▲

A study will he made of the various office forms, procedures, and protocol through which the practicc of architecture is organized. Topics will include the personal ethical and legal interrelationships between other professionals, property owners, and the skilled trades. Legal forms and procedures common to the profession will be introduced.

Prerequisite: senior status.

Process Color Separation

ITEC 4500 **3 cr. 4 hr.** ▲

In this course students experience scanning color photographs directly into electronic publishing systems. Using the electronic publishing hardware and software the images are manipulated and merged to create completed printing negatives. The electronic files and negatives are proofed using a variety of color printers and color keys.

Prerequisite: ITEC 2500.

Performance Contracting

ITEC 4600 **3 cr. 4 hr.** ▲

The course is designed to provide students the guidance to use the performance contracting energy financing/service mechanism effectively and provide an excellent mechanism to bring economy, energy and the environment into appropriate perspective. The first half of the course builds an understanding of the options available and then walks through each step to effectively secure performance contracting services. The second half applies the material from the first half to different market segments i.e. the federal government and utilities from end-user's point of view. Students will present and discuss their reports in class.

Prerequisites: ITEC 1600, 2600, 3600.

Seminar in Graphic Arts

ITEC 4520 **3 cr. 3 hr.** ▲

In the seminar students study and discuss current trends, issues, problems, and technical material in graphic arts. Emphasis is placed on comprehending why the trends must take place and how the emerging technology allows the trends to happen. Students are able to project future technical trends within the graphic area.

Prerequisite: ITEC 2500.

Pre-practicum and Seminar

ITEC 4840 ***3 cr. 3 hr.*** ▲

The seminar gives students the opportunity to formulate concepts of technology education and develop a working knowledge of principles and practices of technology education administration. Pre-practicum experiences are also included. The course meets the state requirement for certification. *Prerequisites: ITEC 3800, 3810.*

Practicum in Technology Education

ITEC 4860 ***10 cr. 30 hr.*** ▲

The Practicum provides experience in planning and implementing instructional strategies in a public-school setting. A self-evaluation is required. The Practicum meets the state requirement for certification. *Prerequisite: permission of Instructor.*

Internship in Industrial Technology

ITEC 4960 ***12 cr. 36 hr.*** ▲

In the Internship students participate in an industrial experience with the approval of the Industrial Technology faculty.

Independent Study

ITEC 4900 ***3 cr.*** ▲

The Independent Study allows students to enroll in a directed study.

Directed Study

ITEC 4975 ***1-6 cr.*** ▲

Topics in Industrial Technology

ITEC 5000 ***3 cr. 3 hr./3 cr. 4 hr.*** ▲

Courses having a more narrow focus or those taught in an irregular basis may be offered under the "Topics" heading. New courses may also be taught on an experimental basis under this title. *Prerequisite: permission of Instructor.*

Interdisciplinary

Key to Course Offerings

Q: designates courses in the Quantitative Scientific Cluster

I: the Ideas and Events Cluster

B: the Human Behavior Cluster

L: the Literature, Language and Arts Cluster

C: Multicultural

IDIS: Interdisciplinary courses

Multicultural and interdisciplinary courses also fulfill a cluster designation.

* Asterisk indicates that the course may be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

Each student is required to complete at least two interdisciplinary courses as part of the Common Graduation Requirements in the Liberal Arts and Sciences Program. These courses are often described in the discipline most closely associated with the interdisciplinary course. This section gives complete course descriptions for the interdisciplinary course or refers to specific areas for descriptions if they are located in other sections.

History of Architecture

ART 1300 ***3 cr. 3 hr.*** ▲

See ART 1300. I, L, C, IDIS

Art Criticism

ART 3100 ***3 cr. 3 hr.*** ▲

See ART 3100. L, C, IDIS

Literature and Disability

ENGL 2300 ***3 cr. 3 hr.*** ▲ ●

See ENGL 2300. L, B, IDIS

Literature and Film

ENGL 2330 ***3 cr. 3 hr.*** ▲ ●

See ENGL 2330. L, IDIS

French Civilization

FREN 3000 ***3 cr. 3 hr.*** ▲

See FREN 3000. I, L, C, IDIS

Economic Geography

GEOG 3000 ***3 cr. 3 hr.*** ▲

See GEOG 3000. I, C, IDIS

History of Mexico, Central America, and the Caribbean

HIST 2700 ***3 cr. 3 hr.*** ▲

See HIST 2700. I, C, IDIS

History of South America

HIST 2750 ***3 cr. 3 hr.*** ▲

See HIST 2750. I, C, IDIS

Introduction to Women's Studies

IDIS 1000 ***3 cr. 3 hr.*** ▲ ●

The course is a cross-cultural, historical, and interdisciplinary introduction to topics and themes in women's experiences, including roles in the family, the work force, and public life. L, I, B, C

Women in Latin America

IDIS 1100 ***3 cr. 3 hr.*** ▲

Through autobiographies, literature, and films, students examine a multicultural and interdisciplinary view of the social, political, and economic situation of contemporary Latin American women.

Introduction to International Studies

IDIS 1200 ***3 cr. 3 hr.*** ▲

The purpose of this survey course is to acquaint students with the field of international studies in the context of contemporary global change. Through lectures, films, performances, and readings, the student gains perspective on some very rapid and important international political-economic transformations and cultural changes. I

Creative Arts

IDIS 1300 ***3 cr. 3 hr.*** ●

Participants acquire basic skills in music, movement, visual art, and language with which they create personal and group works. A final project demonstrating these skills as well as attendance, outside readings, and final exam are required. L

Global Issues

IDIS 1800 ***3 cr. 3 hr.*** ▲ ●

This course examines the interdependency of the world's nations by focusing on current events in the international area and issues such as ozone depletion, pollution, the global economy, conflict and cooperation, population, and hunger. I, C, IDIS

Women in Science and Technology

IDIS 2000 ***3 cr. 4 hr.*** ▲

We will study the contributions to the advancement of science and technology made by a selected group of women. For each of these women, we will examine her discipline, her contribution to the discipline, and site her in an appropriate historical and cultural setting. I, C, IDIS

Dilemmas of Peace and War

IDIS 2100 ***3 cr. 3 hr.*** ▲ ●

This introductory-level course is an interdisciplinary study of the issues of peace and war. It interweaves history, political science, philosophy, literature, and psychology through readings, discussions, lectures, media, and class presentations. I, L, C, IDIS

Contemporary Issues in Women's Health

IDIS 2340 ***3 cr. 3 hr.*** ▲

This course offers a multicultural and interdisciplinary examination of women's health issues, including violence against women, sexual freedom, abortion, menopause, work place risks, and problems of poor, elderly women. I, B, C, IDIS

Caribbean Cultures

IDIS 2400 ***3 cr. 3 hr.*** ▲

This course introduces the culture, politics, economy, and natural history of the Caribbean, and the relation of these facets to the culture of our students. L, C, IDIS, I

Culture and Society of India

IDIS 2500 ***3 cr. 3 hr.*** ▲

This course explores developments in India's cultural heritage, historical epochs, religious traditions, and socio-political movements from antiquity to the present. Class work involves numerous readings of articles on select topics and writing. I, C, IDIS, B

Prerequisite: Writing II.

Man, Society, and Technology

IDIS 2700 ***3 cr. 3 hr.*** ▲

The course studies universal characteristics of technology, including effects of technology on society and culture. Topics of interests are researched. I, IDIS, B

Seminar in the Humanities

IDIS 4000 ***3 cr. 3 hr.*** ▲

This course is a capstone experience for students in General Studies Humanities. Students review research findings and integrate selected humanities areas. This research culminates into a final research paper and classroom presentation.

Adaptations

PHED 3050 ***3 cr. 3 hr.*** ▲

(See PHED 3050) Q, IDIS

Commonwealth of the Arts

MUSC 2000 ***3 cr. 3 hr.*** ▲ ●

(See MUSC 2000) L, I, B, C, IDIS

Commonwealth of the Ancient Arts

MUSC 2100 ***3 cr. 3 hr.*** ▲ ●

(See MUSC 2100) L, I, C, IDIS

Logic

PHIL 1100 ***3 cr. 3 hr.*** ▲ ●

(See PHIL 1100) Q, L. IDIS

Philosophy of Human Nature

PHIL 2600 ***3 cr. 3 hr.*** ▲ ●

(See PHIL 2600) I, B, IDIS

Contemporary Philosophy

PHIL 3340 ***3 cr. 3 hr.*** ▲

(See PHIL 3340) I, IDIS

Marxism

PHIL 4430 ***3 cr. 3 hr.*** ▲

(See PHIL 4430) I, IDIS

Dostoevsky and Tolstoy

RUSS 2400 ***3 cr. 3 hr.*** ▲

(See RUSS 2400) L, I, C, IDIS

Physiological Psychology

PSY 3420 ***3 cr. 3 hr.*** ▲

(See PSY 3420) B, Q, IDIS

Russian Literature in English Translation

RUSS 2500 ***3 cr. 3 hr.*** ▲

(See RUSS 2500) L, I, C, IDIS

Russian Life and Culture

RUSS 2600 ***3 cr. 3 hr.*** ▲

(See RUSS 2600) L, I, C, IDIS

Race and Ethnic Relations

SOC 2500 ***3 cr. 3 hr.*** ▲ ●

(See RUSS 2500) B, I, C, IDIS

Social Stratification

SOC 3000 ***3 cr. 3 hr.*** ▲ ●

(See SOC 3000) B, I, C, IDIS

Women in American Society

SOC 3770 ***3 cr. 3 hr.*** ▲

(See SOC 3770) B, C, IDIS

Independent Study

IDIS 4900 ***3 cr.*** ▲

Directed Study

IDIS 4975 ***1-6 cr.*** ▲

Topics

IDIS 5000 ***3 cr.*** ▲

Leadership Academy (Honors Program)

Key to Course Offerings

Q: designates courses in the Quantitative Scientific Cluster

I: the Ideas and Events Cluster

B: the Human Behavior Cluster

L: the Literature, Language and Arts Cluster

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▲ Undergraduate Day School

● Undergraduate Evening School

Our Many Communities Colloquium

LEAD 1000 ***1 cr. 1 hr.*** ▲

The first Honors Colloquium stresses the theme of leadership, especially within the contexts of our campus and the local community. It provides a practical as well as intellectual orientation toward the immediate world we live in at Fitchburg State. The course will provide an introduction to the functions of college governance and local city government. Students will study leadership not merely from a theoretical perspective but also in real world contexts. I

Foundations of Leadership I

LEAD 1005 ***3 cr. 3 hr.*** ▲

This course focuses on what it means to be leaders in today's world. Students will study different theories of leadership as they apply to leaders, followers, and situations and will have opportunities to observe and apply these theories in real-life situations. Students will also be introduced to some basic psychological research methods and will use these methods to complete several small leadership projects. B

Foundations of Leadership II

LEAD 1010 ***3 cr. 3 hr.*** ▲

The second course in the leadership sequence focuses on learning to be an effective leader. The main objective of this course is to teach students leadership skills including listening, negotiating, building consensus, working with resistance and conflict, problem solving, assertiveness, giving and receiving feedback, and motivating others. Students will study interpersonal and group theory and apply these theories to leadership situations in laboratory and community settings. This course will culminate in an applied on-campus group leadership project. B

Service Learning Project

LEAD 1025 ***1 cr. 1 hr.*** ▲

This Service Learning Project is basic to a citizen leader's preparation. Students will do a thirty-hour practicum at community agencies, neighborhood organizations, schools, businesses or other settings deemed appropriate for service learning. Students will work in service teams under the aegis of both site and college supervisors. This structured learning environment will allow students to 1) become familiar with their community, 2) work with people on the teams as well as with people at the site, 3) learn and use skills for responsible citizenship and 4) develop their sense of civic responsibility. The college supervisor will hold a seminar once a week for students in the field. Topics of the seminar will relate to students' experiences in the agencies as well as to students' progress in recognizing the impact of their contributions. B

Prerequisite: LEAD 1000

Honors English I

LEAD 1050 ***3 cr. 3 hr.*** ▲

This course encourages the development of each student's writing, independent reading and research abilities. Concepts and expressions of leadership in the classical and romantic traditions in literature and the fine arts will be emphasized. Fictional and non-fictional literature will be examined from various class, cultural, gender, historical, literary and political perspectives.

Leadership in the Outdoors

LEAD 1140 ***1 cr. 1 hr.*** ▲
(PHED 1140)

Leadership in the Outdoors is a course designed for students in the Leadership Academy. Experiential by design, the course provides students an opportunity to experience and practice a variety of leadership styles through participation in outdoor adventure activities such as: a confidence course, initiative games, orienteering, canoeing and mountain hiking. The inquiry and analysis for the different types of leadership styles will be conducted for both the individual student and the entire class. An overnight camping trip will culminate the Leadership in the Outdoor course.

The Changing World I (19th Century)

LEAD 1150 ***3 cr. 3 hr.*** ▲

This course presents an overview of how the world changed during the 19th century. Built upon a historical framework within the context of global economy and hegemony, it will introduce students to the lingering implications of such themes as the Industrial Revolution, Nationalism in the West, Imperialism in Asia and Africa, and the globalization of economy and communication. It will explore how European political and industrial power impacted the Afro-Asian nations, but more importantly how it sustained their own expanding European industries and economy. I, C

Honors English II

LEAD 1200 ***3 cr. 3 hr.*** ▲

This course is a continuation of Honors English I and emphasizes writing, independent reading and research. Students examine varieties of leadership in the personal narratives of cultural, intellectual and political leaders; the analyses of social critics and theorists and in works of fiction. We will examine works from various class, cultural, gender, historical, literary, and political perspectives. The diversity of texts affords students opportunities to develop strategies for the interpretation and analysis of different kinds of source material and to evaluate the concept of "leadership" in many contexts.

The Changing World II (20th Century)

LEAD 1250 ***3 cr. 3 hr.*** ▲

The focus of this course will be on the dramatic changes which took place during the 20th century. Drawing upon the disciplines of History and Political Science, it will trace the political, social, and economic significance of such topics as the rise of fascism and communism, the "Pax Americana," the Nuclear Age, the rise of National Liberation Movements in the Third World, the collapse of communism, and ongoing globalization as we approach the new millennium. Through its exploration of the forces which shaped the 20th century, the students will learn not only about the world around them, but also about the world which will be entering the 21st century. I, C

Leaders in the Humanities: The 19th century

LEAD 2000 ***3 cr. 3 hr.*** ▲

An interdisciplinary study of art, music, philosophy and literature from Classicism and Neo-Classicism through Post Impressionism, including the movements of Romanticism, Post-Romanticism, Realism and Impressionism. Emphasis will be placed upon the leaders of the above movements within their disciplines. L, IDIS

Colloquium: Leaders in the Humanities (19th century)

LEAD 2001 ***1 cr. 1 hr.*** ▲

This colloquium complements Leaders in the Humanities: The 19th century by emphasizing research techniques for the humanities. Students will learn to do research using a variety of primary and secondary sources. They will also learn how to present their research in a variety of media. L, IDIS

Consumer Health

LEAD 2030 ***1 cr. 2 hr.*** ▲

This course is designed to help the student evaluate health information critically, and select products and services wisely. The past, present, and future of quackery is explored especially in the areas of food, cosmetics, and chronic disorders. Laws and protection agencies, both governmental and private, are surveyed.

Leaders in the Humanities: 20th century

LEAD 2050 ***3 cr. 3 hr.*** ▲

An interdisciplinary and multicultural study of art, music, philosophy and literature from 1890 to 1995 in Europe and the United States. Periods covered include French Post Impressionism, Fauvism and Cubism; German Expressionism; Spanish and French Surrealism; Early American Modernism, the Harlem Renaissance, Regionalism and Jazz; Abstract Expressionism; Pop Art; Earthworks and contemporary trends. Emphasis will be placed upon the leaders of the above movements within their disciplines. L, IDIS

Colloquium: Leaders in the Humanities (20th century)

LEAD 2051 ***1 cr. 1 hr.*** ▲

This colloquium complements Leaders in the Humanities: The 20th century and continues the development of research techniques for the humanities. Students will expand their understanding of primary and secondary source materials and further develop their presentation skills. L, IDIS

Physics, Mathematics and Technology

LEAD 3000 ***4 cr. 5 hr.*** ▲

This course will introduce the principal ideas and the development of modern 20th century physics along with its foundations in mathematics. After historical review of the development of ideas from Newton's laws through 19th century physics, aspects of quantum mechanics will be addressed. These include the wave-particle duality of nature, the Uncertainty Principle, the probabilistic nature of the Universe, and Einstein's Special and General Theories of Relativity. Q

Biology, Mathematics and Technology

LEAD 3050 ***4 cr. 6 hr.*** ▲

This course will address current issues such as the Human Genome mapping project, the spread and control of disease, population growth, and environmental concerns. Each of these topics requires a clear understanding of the mathematics behind the biological questions. A case-study approach and investigative activities that use laboratory experiments and computer simulations in concert with more traditional presentations will provide the focus for addressing these topics. These investigations will illustrate broader mathematical and biological concepts while engaging the students in problem solving, planning, decision making, and group discussions. Q, L, IDIS

Colloquium: Biology, Mathematics and Technology

LEAD 3051 ***1 cr. 1 hr.*** ▲

The third year colloquium will emphasize the societal, ethical and moral issues related to scientific advances. Specific topics will follow closely those being presented in Biology, Mathematics, and Technology. Students will be expected to express their viewpoints through class discussion and a personal journal. Effective debating and good listening skills will be taught and cultural differences in beliefs and practices will be discussed.

Independent Study in Leadership

LEAD 4900 ***6 cr. 6 hr.*** ▲ ●

The Independent Study is open to students in the Leadership Academy or Leadership Studies minor with the permission of the supervising Instructor and the Coordinator of the Leadership Academy. Meeting times and credit are arranged upon approval.

Senior Thesis/Project

LEAD 4990 ***6 cr. 6 hr.*** ▲

The course is for Leadership Academy students completing the senior requirement. Topics are approved by the thesis committee, coordinator, and advising professor. The course of study, meetings, and credit are arranged with the advisor.

Mathematics

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▲ Undergraduate Day School

● Undergraduate Evening School

Basic Mathematics I

MATH 0100 ***3 inst. cr. 4 hr.*** ▲ ●

This class serves as a review of basic arithmetic skills and an introduction to elementary algebra.

Basic Mathematics II

MATH 0200 ***3 inst. cr. 4 hr.*** ▲ ●

The course serves as a continuation of Basic Mathematics I. Concepts studied range from Elementary Algebra through quadratic equations.

Note 1: Institutional Credits (inst. cr.) do not count toward graduation.

Note 2: All students must pass the Math Placement Exam or MATH 0200 before they are permitted to take any of the following mathematics courses.

Finite Mathematics

MATH 1200 ***3 cr. 3 hr.*** ▲

In this course a variety of discrete mathematical models are developed and applied to business and to the social and life sciences. Topics covered include matrices, linear programming, probability, and game theory. Q

Introduction to Functions

MATH 1250 ***3 cr. 3 hr.*** ▲ ●

This course provides a study of mathematical functions, graphing techniques, and applications. The functions covered in the class are linear, quadratic, polynomial, rational, exponential, and logarithmic. Credit is not awarded for both MATH 1250 and MATH 1300. Q

Precalculus

MATH 1300 ***3 cr. 3 hr.*** ▲ ●

This course prepares students for the study of calculus. Topics covered include real numbers, equations and inequalities, analytic geometry, as well as polynomial, trigonometric, exponential, and logarithmic functions. Credit is not awarded for both MATH 1250 and MATH 1300. Q

Mathematics Across the Curriculum

MATH 1400 ***3 cr. 3 hr.*** ▲

This course introduces students to a variety of topics in applied mathematics, including population modeling, measurement, growth and form, social decision making, and graph theory. The course is required for Elementary Education majors and Middle School Education majors. Q, IDIS

MATH 1700 ***3 cr. 3 hr.*** ▲ ●

Methods of data collection, organization, and interpretation, sampling, probability, estimation, and testing are applied to areas including biology, business, medicine, economics, and education. Credit is not awarded for both MATH 1700 and MATH 1800. Q

Business Statistics

MATH 1800 ***3 cr. 3 hr.*** ▲ ●

Topics covered in this course include descriptive methods, probability distributions, estimation, testing, analysis of variance, and regression analysis. (Credit is not awarded for both MATH 1700 and MATH 1800.) Q

Prerequisite: MATH 1250 or MATH 1300.

Informal Geometry

****MATH 2000*** ***3 cr. 3 hr.*** ▲

This course involves an intuitive study of basic geometric objects and concepts. Topics studied vary, but are chosen for their intuitive appeal as well as their geometric significance.

Calculus for Business

MATH 2200 ***3 cr. 3 hr.*** ▲ ●

This course surveys methods and applications of the calculus for functions of one variable, which are useful in business and economics. Topics include differentiation with applications to rates and maximum and minimum values, integration techniques with applications to areas, cost, and rates. (Credit is not awarded for both MATH 2200 and MATH 2300.) Q

Prerequisite: MATH 1250 or MATH 1300.

Calculus I

MATH 2300 ***4 cr. 5 hr.*** ▲ ●

The derivative of a function, methods of differentiation, and applications are studied. (Credit is not awarded for both MATH 2200 and MATH 2300.) Q, Intro

Prerequisite: MATH 1300 or its equivalent.

Calculus II

MATH 2400 ***4 cr. 5 hr.*** ▲ ●

The course involves the study of the Riemann Integral, methods of integration, and applications. Q, Intro

Prerequisite: MATH 2300 or its equivalent.

Introduction to Mathematical Thought

MATH 2500 ***3 cr. 3 hr.*** ▲

The course is intended to introduce mathematics as the science of reasoning. Topics covered include elementary set theory, logic, techniques of proof, basic properties of the real number system, mathematical induction, and axiomatic systems. Q, Intro

Prerequisite: MATH 1300 or its equivalent.

Linear Algebra

MATH 2600 ***3 cr. 3 hr.*** ▲ ●

In this course topics covered include the application of vector spaces, linear transformations, and matrices. Q

Prerequisite: MATH 2300.

Applied Statistics II

****MATH 2700*** ***3 cr. 3 hr.*** ▲ ●

This course is a continuation of MATH 1700. Topics covered include estimation and testing, simple linear and multiple regression, analysis of variance, and nonparametric methods. Q

Prerequisite: MATH 1700 or MATH 1800.

Introduction to Secondary School Teaching

MATH 2860 ***3 cr. 3 hr.*** ▲

This course is required of all students entering a provisional certification program at the secondary level. It is a sophomore level course for full-time undergraduates and the first course taken by transfer and certification-only students. Students become familiar with the complexities of secondary school teaching and its demands. The course gives faculty the opportunity to screen students and gives students the opportunity to test their commitment to teaching. This course includes a pre-practicum requirement and is a prerequisite for other certification course requirements.

Geometry I

MATH 3000 ***3 cr. 3 hr.*** ▲

The course involves a formal study of basic concepts in geometry and the foundations of Euclidean geometry. This course is for mathematics majors or minors and students with a mathematics specialization—all others need permission from the Instructor.

Prerequisites: MATH 2400, 2600.

Discrete Algebraic Structures

MATH 3100 ***3 cr. 3 hr.*** ▲

The course studies discrete algebraic structures of interest in computer science. Topics covered include partial orders, Boolean algebra, graph theory, and finite state machines. Q

Prerequisite: MATH 2600.

Elementary Number Theory

MATH 3150 ***3 cr. 3 hr.*** ▲

This course studies the properties of the integers. Topics covered include divisibility, prime numbers, congruencies, Diophantine equations, and mathematical induction.

Prerequisite: MATH 2500.

History of Mathematics

MATH 3200 ***3 cr. 3 hr.*** ▲

The development of mathematical ideas and methods from ancient to modern times and their relevance to other fields of knowledge is studied. This course is intended for mathematics majors, mathematics minors, or mathematics specialists.

Prerequisite: MATH 2400.

Calculus III

MATH 3300 ***3 cr. 3 hr.*** ▲ ●

This course studies conic sections, indeterminate forms, Taylor polynomials, infinite and power series, differentials, and multiple integrals. Q, Intro

Prerequisite: MATH 2400.

Calculus IV

MATH 3400 ***3 cr. 3 hr.*** ▲ ●

The calculus of polar coordinates, parametric curves, vector valued functions, quadratic surfaces, and directional derivatives are studied. Double integrals in polar coordinates, line integrals, and differential equations may also be considered. Q

Prerequisite: MATH 3300.

Ordinary Differential Equations

MATH 3550 ***3 cr. 3 hr.*** ▲

Students examine linear first and second order differential equations, methods of solution, and applications. Series solutions and higher order linear equations are considered.

Prerequisites: MATH 2600 and 3300.

Introduction to Mathematical Logic

***MATH 3600** **3 cr. 3 hr.** ▲

This course serves as an elementary introduction to classical and symbolic logic, including standard sentential and first order predicate calculi.

Prerequisite: MATH 2500 or MATH 2300.

Mathematics Seminar

***MATH 3900** **1 cr. 1.5 hr.** ▲

The Seminar provides the opportunity for problem solving and research on one or more topics outside the core curriculum areas.

Real Variable Theory

***MATH 4000** **3 cr. 3 hr.** ▲

The course covers rigorous treatment of the foundations of differential and integral calculus with such topics as the real numbers, continuity, metric, and Euclidean spaces.

Prerequisites: MATH 2600 and MATH 3300.

Topology

***MATH 4050** **3 cr. 3 hr.** ▲

The course studies the following topics: point sets, metric spaces, topological spaces, connectedness, and compactness.

Advanced Multivariate Calculus

***MATH 4150** **3 cr. 3 hr.** ▲

The differential and integral calculus of vector valued functions and functions of several variables is examined.

Prerequisites: MATH 2600, 3400.

Probability and Statistics I

***MATH 4200** **3 cr. 3 hr.** ▲

The course involves a careful development of elementary probability theory with applications followed by the study of discrete and continuous random variables, including the binomial, Poisson, and normal. Q

Prerequisite: MATH 3300.

Probability and Statistics II

***MATH 4250** **3 cr. 3 hr.** ▲

Random variables and their probability distributions are used to study problems in estimation, hypothesis testing, regression, and analysis of variance.

Prerequisite: MATH 4200.

Abstract Algebra I

***MATH 4300** **3 cr. 3 hr.** ▲

The course studies algebraic structures, including groups, rings, and fields.

Prerequisites: MATH 2500 or permission of Instructor, and MATH 2600.

Complex Analysis

***MATH 4350** **3 cr. 3 hr.** ▲

The course covers the following topics: the complex number system, the analysis of complex functions, analytic functions, integration, series, contour integration, and conformal mappings.

Prerequisite: MATH 3300.

Operations Research

***MATH 4400** **3 cr. 3 hr.** ▲

The course covers the following topics: linear programming, duality, networks, transportation problems, dynamic programming, and stochastic models. Q

Prerequisites: MATH 2600 and MATH 2400.

Mathematical Modeling

***MATH 4450** **3 cr. 3 hr.** ▲

Deterministic and probabilistic models from the physical, social, and life sciences are studied. The course emphasizes the uses of mathematics, rather than the acquisition of new mathematical knowledge. New mathematical ideas are introduced only when they aid in the study of a particular application. Q

Prerequisites: MATH 2400, 2600.

Numerical Analysis

***MATH 4500** **3 cr. 3 hr.** ▲

Numerical analysis is concerned with devising algorithms for approximating the solutions to mathematically expressed problems. Topics are chosen from: round off error and computer arithmetic, solutions of algebraic and transcendental equations, interpolation and polynomial approximation, numerical differentiation and integration, solutions of ordinary differential equations, solutions of linear systems, and approximation theory. Both mathematical rigor and computer solutions are stressed.

Prerequisites: MATH 2600, 3300, programming ability in a numerical program language (e.g. FORTRAN, PASCAL).

Methods and Materials in Secondary Mathematics

***MATH 4850** **3 cr. 3 hr.** ▲

The curriculum and pedagogy of secondary school mathematics is studied. The course includes a 30 hour pre-practicum of professional experiences.

Prerequisites: MATH 2400 and 2600.

Mathematics Practicum in a Secondary School

***MATH 4860** **6 cr.** ▲

Students are assigned to cooperating schools for one-half of one semester of student teaching.

Prerequisite: permission of the department.

Mathematics Practicum in a Secondary School II

***MATH 4870** **6 cr.** ▲

Students are assigned to cooperating schools for one-half semester of student teaching.

Prerequisites: MATH 4860 and permission of the department.

Independent Study

***MATH 4900** **1, 2, 3 cr.** ▲ ●

Prerequisite: permission of the department.

Directed Study

***MATH 4975** **1-6 cr.**

Topics in Mathematics

***MATH 5000** **3 cr. 3 hr.** ▲ ●

Courses having a more narrow focus or those taught on an irregular basis may be offered under the "Topics" heading. New courses may also be taught on an experimental basis under this title.

Prerequisite: Permission of the department.

Military Science

▲Undergraduate Day School
●Undergraduate Evening School

Fitchburg State College no longer offers Military Science courses. We continue to list the courses for students who were previously enrolled in the ROTC program and for students who are interested in taking the courses at Worcester Polytechnic Institute through the Worcester Consortium.

Introduction to Army ROTC

MILS 1400 ***1 cr. 1 hr.*** ▲

The history, purpose, structure, and methods of the Army ROTC program are introduced in this course. The leadership and management responsibilities of an officer are presented. Emphasis is placed on ROTC and its relationship with the United States Army.

Introduction to the United States Army

MILS 1500 ***1 cr. 1 hr.*** ▲

This course provides an overview of the role of the "Total Army" within the framework of the national defense establishment. The integrated roles of the Active Army and the Reserve Components are examined. Emphasis is placed on the duties and responsibilities of the officer serving in the combat arms, combat support, and combat service support branches.

Land Navigation and Basic Tactics

MILS 2000 ***2 cr. 2 hr.*** ▲

Students learn the basic fundamentals necessary to navigate. In Land Navigation, students identify terrain features, find locations, determine directions, and plan routes. Maps, protractors, compasses, terrain boards, and audio-visual aids are utilized extensively. The students also receive an introduction to individual tactical techniques and to small unit organization and utilization. Practical exercises are employed to give students hands-on experience in movement techniques and the tactical employment of small units.

Emergency Medical Treatment/Basic Tactics

MILS 2200 ***2 cr. 2 hr.*** ▲

The first half of the course presents casualty evaluation, treatment, and evacuation under emergency conditions. Emphasis is on injury prevention under different climatic conditions and on the Cardiopulmonary Resuscitation (CPR) Technique. The second half of the course familiarizes the students with individual, buddy team, and squad tactics. These basic fundamentals are reinforced and built upon throughout the student's tenure in the Army ROTC program.

Advanced Theory of Unit Operations

MILS 3100 ***3 cr. 3 hr.*** ▲

This course provides continuing study of effective leadership in tactical operations, culminating the lessons learned during previous courses. Students examine the theory and dynamics of the military team and its effective employment as part of the combined arms concept.
Prerequisite: completion of Basic Course or advanced placement credit granted by the Professor of Military Science.

Leadership

MILS 3300 ***3 cr. 3 hr.*** ▲

The course studies the psychology of leadership based on an organizational model. Emphasis is placed on individual, group, transactional, and organizational factors that both a leader and manager need to consider in order to be maximally effective. The student is provided with the essentials for forming a creative, personal management and leadership philosophy for practical application in a real world setting.
Prerequisites: completion of Basic Course or advanced placement credit granted by the Professor of Military Science.

Effective Communication

MILS 4200 ***3 cr. 3 hr.*** ▲

The course is designed to enhance the communication skills of the Army Officer. Emphasis is on the Army writing style, conducting briefings, and the Army Training Management System. Effective speaking, listening, writing, and military correspondence is studied, with an emphasis on the interrelationship of staff and command assignments, for the effective utilization of people and resources.
Prerequisite: completion of Basic Course or advanced placement credit granted by the Professor of Military Science.

Law, Ethics, and Preprofessional Seminar

MILS 4300 ***3 cr. 3 hr.*** ▲

This course provides the student with an introduction to Military Law and Military Professional Ethics. The role of the junior officer with regard to military law in the practical setting of his/her initial assignment in an Army unit is examined. This course provides the Advanced Course cadet with a basic knowledge of the Army's organizational practices and philosophy. The role of the noncommissioned officer is reviewed along with the basics of line and staff functions. An overview of the Army's personnel management, training, and logistics systems, along with post and installation support organization and functions are presented as a Basic Course.
Prerequisite: completion of Basic Course or advanced placement credit granted by the Professor of Military Science.

Music

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● Undergraduate Evening School

Art of Music

MUSC 1000 ***3 cr. 3 hr.*** ▲ ●

This course approaches the study of music as an aesthetic experience. Representative styles and categories from the Middle Ages to the present are explored. Students are required to attend professional concerts. L, C

Commonwealth of the Arts

MUSC 2000 ***3 cr. 3 hr.*** ▲ ●

Music's reflection of the values and ideals of societies past and present are explored. Inter-relationships among the fine arts disciplines are examined. L, I, B, C, IDIS

Commonwealth of Ancient Arts

MUSC 2100 ***3 cr. 3 hr.*** ▲ ●

An interdisciplinary study of the humanities in ancient Western and non-Western cultures. A systematic overview of painting, sculpture, architecture, music, literature, drama, and philosophy in a historical context of significant cultures, including Paleolithic, Neolithic, Mesopotamian, Egyptian, Greek, Roman, Chinese, Indian, and American. Influences among these and other cultures will be presented. L, I, C, IDIS

Basic Music Theory

MUSC 2200 ***3 cr. 3 hr.*** ▲

The course examines rhythmic notation, including meters and tempo. Emphasis is placed on melodic notation, including intervals, scales, and keys. Dynamics, an introduction to key relationship, transpositions, as well as other selected topics are covered. L

Symphony

MUSC 3100 ***3 cr. 3 hr.*** ▲

Structural and stylistic characteristics of the symphony from the 18th century to the present are studied. L

Prerequisite: MUSC 1000 or MUSC 2200.

Opera

MUSC 3200 ***3 cr. 3 hr.*** ▲

Students study several works from the standard operatic repertoire. Some significant trends in modern opera are discussed. L

Prerequisite: MUSC 1000 or MUSC 2200.

Twentieth-Century Music

MUSC 3400 ***3 cr. 3 hr.*** ▲

The course examines the idioms and aesthetic notions of the present century, together with their relationship to the past. L, C

Prerequisite: MUSC 1000 or MUSC 2200.

American Music

MUSC 3500 ***3 cr. 3 hr.*** ▲

The course surveys American music from colonial times with some emphasis on "popular" and "Art" music of the present century in the U.S. L, C

Baroque and Classical Music

MUSC 3600 ***3 cr. 3 hr.*** ▲

The class examines various composers from Monteverdi to Beethoven. Topics covered in the course include opera, oratorio, passion, cantata, sonata forms, dance forms, and shifting aesthetic views. L

Prerequisite: MUSC 1000 or MUSC 2200.

19th Century Music

MUSC 3700 ***3 cr. 3 hr.*** ▲

The class presents a survey of major forms of 19th century music from Beethoven to Mahler. L

Prerequisite: MUSC 1000 or MUSC 2200.

History of Jazz

MUSC 3800 ***3 cr. 3 hr.*** ▲

This course introduces students to the history of jazz and investigates the musical elements that make up jazz. The role of jazz in American history is explored, and various musical trends that contributed to jazz are traced. L, C

Women, Music, and Society

MUSC 3900 ***3 cr. 3 hr.*** ▲

This course looks at the contributions of significant women in music. Compositions by women from different cultures are examined as a reflection of the social, political and economic conditions. Elements of form, structure, and historical style are studied from antiquity to modern times in musical genres such as symphony, opera, chamber music, song, and solo repertoire. L

Choral Arts

MUSC 4000 ***1 cr. 2 hr.*** ▲

The course involves singing choral music from the past and the present, including dramatic music. No more than six semester hours are applicable toward graduation. (See MUSC 4100.) L

Instrumental Arts

MUSC 4100 ***1 cr. 2 hr.*** ▲

Small and large ensembles play representative works including band and jazz ensemble literature. No more than six semester hours of MUSC 4100 or any combination of MUSC 4100 and MUSC 4000 are applicable toward graduation. L

Class Piano

MUSC 4200 ***1 cr. 2 hr.*** ▲ ●

The class involves practical keyboard uses in classroom work, activities include accompaniment, simple transposition, and harmonization of melodies at the keyboard. L

Class Voice

MUSC 4300 ***1 cr. 2 hr.*** ▲

The principles of voice production are studied. Breath control, phrasing, resonance, and diction are stressed. L

Harmony I

MUSC 4500 ***3 cr. 3 hr.*** ▲

The course involves the harmonization of simple melodies and studies principles of modulation and key relationships. L

Prerequisite: MUSC 2200.

Harmony II

****MUSC 4510*** ***3 cr. 3 hr.*** ▲

The course covers further work in modulation, including chromaticism and 19th and early 20th century developments.

Prerequisite: MUSC 4500 or equivalent. L

Independent Study in Music
MUSC 4901 ***1 cr. 1 hr.*** ▲ ●

Independent Study in Music
MUSC 4902 ***2 cr. 2 hr.*** ▲ ●

Independent Study in Music
MUSC 4903 ***3 cr. 3 hr.*** ▲ ●

Internship in Music
MUSC 4940 ***3 cr. 3 hr.*** ▲

Directed Study
MUSC 4975 ***1-6 cr.***

Topics in Music
MUSC 5000 ***3 cr. 3 hr.*** ▲ ●

Courses having a more narrow focus or those taught on an irregular basis may be offered under the "Topics" heading. New courses may also be taught on an experimental basis under this title.

Nursing

Key to Course Offerings

* Asterisk indicates that the course may be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

Introduction to Nursing
NURS 1010 ***1 cr. 1 hr.*** ▲

This course examines the role of professional nurses within the health care system. The nurse as a promoter of health and differing views of health and illness are also explored.

Prerequisite: none, open to any major.

Scientific Foundations for Nursing–Interventions I
NURS 2000 ***2 cr. 2 hr.*** ▲

Selected basic alterations in health and physiology underlying nursing assessment, diagnosis, and intervention are discussed. This is the first course in a two-semester sequence.

Prerequisites: BIOL 1200 and 1300, CHEM 1200.

Scientific Foundations for Nursing–Interventions II
NURS 2100 ***2 cr. 2 hr.*** ▲

Selected basic alterations in health and physiology underlying nursing assessment, diagnosis, and intervention are discussed. This is the second course in a two-semester sequence.

Prerequisite: NURS 2000.

Nutritional Foundations for Nursing Interventions
NURS 2200 ***3 cr. 3 hr.*** ▲

This course examines concepts from nutrition science and their application to self-care and client care. The collaborative role of nurse and dietitian is also explored.

Prerequisites: BIOL 1200 and 1300, CHEM 1200 or permission of Instructor.

Contemporary Issues in Women's Health
NURS 2340 ***3 cr. 3 hr.*** ▲

This elective course considers issues in women's health from socialization in infancy through the powerlessness and isolation of old age. Emphasis is placed on understanding women's unique health problems and on societal forces that shape health perceptions and care of women. Health promotion is stressed, and ways in which women may assume control of their health management is explored. I, B, IDIS, C

Note: if minoring in Women's Studies, see advisor for course sequencing.

Nursing Process with the Well Client I
NURS 2700 ***5 cr. 9 hr.*** ▲

The content of the course deals with theoretical and methodological nursing concepts for practice with well clients. Clinical practice includes psychomotor skills, physical assessment, health promotion and maternity/newborn care. This is the first course in a two-semester sequence.

Prerequisites: ENGL 1200, PSY 1100, SOC 1100, BIOL 1200 and 1300, CHEM 1200. Pre or corerequisites: NURS 1010, NURS 2000, NURS 2200, PSY 2200.

Nursing Process with the Well Client II
NURS 2800 ***5 cr. 9 hr.*** ▲

The content of the course deals with theoretical and methodological nursing concepts for practice with well clients. Clinical practice includes psychomotor skills, physical assessment, health promotion, and maternity/newborn care. This is the second course in a two-semester sequence.

Prerequisites: NURS 2000, NURS 2200, NURS 2700, PSY 2200. Pre or corerequisites: BIOL 2700, NURS 2100.

Nursing Care of the Child Bearing Family
NURS 2910 ***5 cr. 5 hr.*** ▲

This course for Registered Nurse students examines current concepts and nursing interventions for the care of prenatal, intrapartal, and postpartal women and neonates. (RN students may exempt by exam).

Prerequisites: ENGL 1200, BIOL 1200 and 1300, BIOL 2700, CHEM 1200, PSY 2200, SOC 1100.

Pharmacological Basis for Nursing Interventions

NURS 3100 ***2 cr. 2 hr.*** ▲

This course deals with principles of pharmacology needed for professional nursing practice. Interrelationships among drug action, disease process, and client are the basis for exploring therapeutic effectiveness. Selected drug classifications and prototypes are used to structure content. Legal constraints and ethical issues are explored.

Prerequisites: NURS 2800, NURS 2100, BIOL 2700 or permission of the Instructor.

Concepts of Nursing I

NURS 3500 ***3 cr. 5 hr.*** ▲

The evolution and development of theoretical models of nursing as well as other historical precedents are investigated and the interrelationship among the basic concepts of person, environment, health, and nursing are studied. The focus of the clinical component is utilization of the functional health pattern format to assess the health status of clients and the development of a nursing history. This is one of two courses designed to provide advance placement for the registered nurse student that can be taken either semester or concurrently with Nursing Concepts II.

Prerequisite: ENGL 1200, BIOL 1300, BIOL 2700, CHEM 1200, PSY 1100, PSY 2200, SOC 1100, pre or co-requisite NLN Mobility Profile II or equivalent.

Concepts of Nursing II

NURS 3600 ***3 cr. 5 hr.*** ▲

Selected nursing diagnoses within the format of functional health patterns are addressed. Students are provided the opportunity to explore the interdependence of the multiple elements of the nursing process applied to selected case studies. Experience in the campus laboratory and with selected clients provides the student with the opportunity to demonstrate competence in psychomotor skills related to health and physical assessment. This is one of two courses designed to provide advance placement for the registered nurse student that can be taken either semester or concurrently with Nursing Concepts I.

Prerequisite: ENGL 1200, BIOL 1300, BIOL 2700, CHEM 1200, PSY 1100, PSY 2200, SOC 1100, pre or co-requisite NLN Mobility Profile II or equivalent.

Nursing Process with Clients Experiencing Health Alterations I

NURS 3700 ***10 cr. 18 hr.*** ▲

Critical thinking skills are developed through application of the nursing process to clients with common health problems. Practice opportunities are offered in selected acute care facilities. This is the first course in a two-semester sequence.

Prerequisites: NURS 2800, NURS 2100, BIOL 2700, and Basic Math Competency, Pre or corerequisite: NURS 3100.

Nursing Process with Clients Experiencing Health Alterations II

NURS 3800 ***10 cr. 18 hr.*** ▲

Critical thinking skills are developed through application of the nursing process to clients with common health problems. Practice opportunities are offered in selected acute care facilities. This is the second course in a two-semester sequence.

Prerequisites: NURS 3100, NURS 3700.

Nursing Care of the Mentally Ill Client

NURS 3910 ***5 cr. 5 hr.*** ▲

This course for Registered Nurse students examines current concepts and nursing measures in the care of clients with selected alterations in mental health. (RN students may exempt by exam).

Prerequisites: ENGL 1200, BIOL 1200 and 1300, BIOL 2700, CHEM 1200, PSY 2200, SOC 1100.

Nursing Care of the Child

NURS 3920 ***5 cr. 5 hr.*** ▲

This course for Registered Nurse students examines current concepts and nursing measures in the care of children from infancy through adolescence. (RN students may exempt by exam).

Prerequisites: ENGL 1200, BIOL 1200 and 1300, BIOL 2700, CHEM 1200, PSY 2200, SOC 1100.

Nursing Care of the Adult

NURS 3930 ***10 cr. 10 hr.*** ▲

This course for Registered Nurse students examines current concepts and nursing measures in the care of adult clients with selected common health problems. (RN students may exempt by exam).

Prerequisites: ENGL 1200, BIOL 1200 and 1300, BIOL 2700, CHEM 1200, PSY 2200, SOC 1100.

Nursing Research

NURS 4000 ***2 cr. 2 hr.*** ▲

This course prepares students as knowledgeable research consumers. Nursing students identify and explore research problems.

Prerequisites: MATH 1700. Pre or corerequisite: NURS 3600 or NURS 3800.

Nursing Process with Families, Groups, and Communities

NURS 4700 ***6 cr. 12 hr.*** ▲

This course focuses on systems concepts as a basis for applying the nursing process with aggregate clients in the community. Primary, secondary, and tertiary prevention is the basis for interventions in a variety of distributive care settings. Special emphasis is placed on the older adult group.

Prerequisites: NURS 3600 or NURS 3800.

Nursing Process in Home Health Care

NURS 4750 ***4 cr. 8 hr.*** ▲

This course focuses on the application of nursing process with individuals and families in the home health care setting. Emphasis is placed on primary, secondary, and tertiary prevention.

Prerequisites: NURS 3600 or NURS 3800.

Nursing Process in a Selected Practicum

NURS 4800 ***10 cr. 26 hr.*** ▲

This capstone course offers opportunities for in-depth exploration of an area of nursing interest. Nursing process with clients experiencing complex health problems, leadership and management principles, and professional issues are integrated into clinical practice. A preceptor model is used to facilitate increased independence in professional practice.

Prerequisites: NURS 4000, NURS 4700, and 4750.

Leadership and Management Concepts for Nursing Practice

NURS 4850 ***2 cr. 2 hr.*** ▲

This course examines concepts underlying professional career development in nursing. The roles of the nurse as manager of client care, as part of a health care institution hierarchy, and as a member of a professional collective are explored.

Prerequisites: NURS 4700 and NURS 4750 or permission of Instructor.

Independent Study

NURS 4901 ***1 cr. 1 hr.*** ▲

Independent Study

NURS 4902 ***2 cr. 3 hr.*** ▲

Independent Study

NURS 4903 ***3 cr. 3 hr.*** ▲

Directed Study

NURS 4975 ***1-6 cr.***

Topics in Nursing

NURS 5000 ***0-4*** ▲

Courses having a more narrow focus or those taught on an irregular basis may be offered under the "Topics" heading. New courses may also be taught on an experimental basis under this title.

Occupational/Vocational Education

Key to Course Offerings

* Asterisk indicates that the course mav be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

These courses are only offered through Continuing Education.

Teaching Methods: Instructional Strategies in Vocational Technical Education

OCED 5515 ***3 cr.*** ●

Theories and techniques of instruction are examined. Topics covered include proficiency in the application of learning theories, strategies, techniques and the methodology involved in the delivery of specific courses of study. Additional themes include the competency-based vocational technical lessons, lesson plan design, developing behavioral standards, classroom management and the coordination and evaluation of student learning.
Note: This is a required course for candidates seeking Massachusetts Department of Education approval as a Vocational Technical Instructor.

Teaching Methods: Educating the Vocational Technical Learner

OCED 5516 ***3 cr.*** ●

This course refines the teaching/learning skills introduced in OCED 5515. Micro teaching and video tape replay review strengthen and foster effective teaching in the secondary vocational technical classroom. The requirements of chapter 74 (as amended by chapter 731) as they impact upon the laboratory/classroom setting are explored. Other topics covered include student disciplinary and safety concerns and the identification and utilization of curriculum resources.
Note: This is a required course for candidates seeking Massachusetts Department of Education approval as a Vocational Technical Instructor.

Fundamentals of Vocational Technical Education

OCED 5517 ***3 cr.*** ●

This course examines the history and philosophy of vocational technical education. The present state of Federal vocational education; Chapter 731, Child Labor Laws; Chapter 622 and Title IX; and Chapter 766, State Vocational Council is covered. Additionally the course studies The National Center for Research in Vocational Education; and Federal Vocational Education Regulations.
Note: This is a required course for candidates seeking Massachusetts Department of Education approval as a Vocational Technical Instructor.

Management of the Vocational Technical Education Environment

OCED 5518 ***3 cr.*** ●

This course examines laboratory, academic, and related classroom and cooperative placement site safety. Emphasis on developmental psychology, adolescent psychology, learning styles, and discipline strategies addresses the needs of adolescents, students with special needs, disadvantaged youth, nontraditional students, linguistic minorities, and other priority populations. Also studied are student organizations, record keeping and data coordination, advisory committees, and communication networking.
Note: This is a required course for candidates seeking Massachusetts Department of Education approval as a Vocational Technical Instructor.

Students with Special Needs in Vocational Technical Education

OCED 5523 ***3 cr.*** ●

This course traces the development of Special Needs Programs with emphasis on the identification and understanding of special needs students in vocational schools. Particular attention is given to teaching techniques and administrative organization patterns utilized in a vocational school.
Note: This is a required course for candidates seeking either Massachusetts Department of Education approval as a Vocational Technical Instructor or Special Ed/Voc Ed Mini-approval.

Promoting Positive Social Behavior for Students with Special Needs in Vocational Education

DCED 5524 ***3 cr.*** ●

The course provides familiarity with the continuum of services required for students with special needs in all school settings. The modifications of approach and teaching techniques which make vocational education accessible to all students are discussed in depth. A Case Study is required of each student in the course.

Strategies and Methods for Teaching Special Needs Students Re: Vocational Education

DCED 5525 ***3 cr.***

A practical approach to planning instruction for special needs students in the regular class within a vocational school setting. Using a framework for applying theory in practice, teachers develop and/or attempt strategies that are applicable to their classrooms.

Implementation and Evaluation of Education Plans for Students with Special Needs

DCED 5526 ***3 cr.*** ●

The course provides experience in interpreting educational prescriptions for implementation within vocational training programs. Each student designs an individualized instructional plan describing all materials, recommended methodology and techniques of evaluation.

Seminar and Practicum in Vocational Education/Special Education

DCED 5527 ***3 cr.*** ●

Students complete a practicum or internship in an approved setting for individuals with special needs. Students are assisted in implementing the various facets of their role within a given setting. Visitations are planned not only to observe the competencies being demonstrated but to meet with school administrators in defining the role and functions. Practicum seminar is designed to assist the total group in dealing with current concerns and issues and to allow students to learn from the experiences of each other.

Competency Based Vocational Technical Curriculum Development

DCED 5529 ***3 cr.*** ●

This course is designed to enable teachers to identify competencies within their respective vocational technical program areas. It further discusses techniques to enable teachers to develop, evaluate, and verify competencies.

Note: This is a required course for candidates seeking Massachusetts Department of Education approval as a Vocational Technical Instructor.

Supervised Practicum in Vocational Education

DCED 5534 ***3 cr.*** ●

A practicum is a modified teaching placement in a vocational technical school or equivalent field-based experience. Candidates function as "pre-approved" instructors with responsibility for demonstrating ability to implement various teaching models, familiarization with school policies, classroom management techniques, and the coordination of educable training resources. Teaching is supervised by a cooperating teacher and monitored and evaluated by a college instructor. Practicum participants design competency-based lesson plans, participate actively in seminar discussions, and complete a research assignment on educational reform. Eligible practicum time requirements: 5 hours/day x 3-4 days x 6 weeks.

Note: This is a required course for candidates seeking Massachusetts Department of Education approval as a Vocational Technical Instructor.

Implementing a Competency Based Curriculum

DCED 5539 ***3 cr.*** ●

This course is designed to provide teachers the tools needed to successfully implement a competency based program. Teachers demonstrate competency in revising learning guides and task listings. A management system to evaluate student achievement and maintain competency profiles is examined. Teachers are introduced to the principles of integrated and applied learning to assist them in bridging the vocational and academic competencies required by their students. Activities culminate in the production of a revised/adapted curriculum for a specific vocational technical program area.

Note: This is a required course for candidates seeking Massachusetts Department of Education approval as a Vocational Technical Instructor.

Computerized Vocational Technical Curriculum Management

DCED 5545 ***3 cr.*** ●

This course is designed to introduce the vocational technical educator to the microcomputer as a tool for curriculum, classroom record keeping, and planning. Students adapt, modify, and incorporate the excellent curricular resources developed within Massachusetts, including CBVE, MSCP, and others into practical learning applications utilizing the computer. In addition to hands-on experience with a microcomputer, the course enables participants to blend classroom and laboratory learning with an emphasis on integrated software and its application within a vocational technical setting.

Note: This is a required course for candidates seeking Massachusetts Department of Education approval as a Vocational Technical Instructor.

Integrated Vocational Technical and Academic Curriculum

DCED 5546 ***3 cr.*** ●

This course shares, explores, and investigates Massachusetts developed curricular resources, including CBVE, MSCP, Model Academic Project, LAPS, as well as nationally devised curriculum, including Principles of Technology, CBE, and others. This learning activity examines the eight methods (academic infusing, cross articulation, vocational/technical relevance, content alignment, the academy model, specialized courses/programs, employability/career path skills and the culminating/senior project) for integration identified by the National Center for Research in Vocational Education at the University of California at Berkeley.

Note: This is a required course for candidates seeking Massachusetts Department of Education approval as a Vocational Technical Instructor.

Brain Compatibility: Teaching and Learning

DCED 5547 ***3 cr.*** ●

Researchers have learned more about the brain and learning in the last decade than in previous recorded history. This course is designed to provide educators with a review of brain research relevant to learning styles on any grade level and to allow teachers to apply specific brain compatible methods in their classroom and laboratory situations.

This area of study is critical to the task of serving students properly. Proficiency in applying brain research to the planning and delivery of instruction is gained through this course.
Note: This is a required course for candidates seeking Massachusetts Department of Education approval as a Vocational Technical Instructor.

Assessment Standards and Evaluation

OCED 5549 ***3 cr.*** ●

Participants explore strategies for establishing student performance criteria, assessing student knowledge and attitudes, evaluating hands-on skills and determining student grades. Topics include identifying and examining existing standards and social equity in educational assessment. Methods for linking competency designed instructional objectives to evaluation and measuring instruments are reviewed, including factors related to reliability and range.
Note: This is a required course for candidates seeking Massachusetts Department of Education approval as a Vocational Technical Instructor.

Topics in Voc/Occ Education

OCED 5560 ***3 cr.*** ●

Courses having a more narrow focus or those taught on an irregular basis may be offered under the "Topics" heading. New courses may also be taught on an experimental basis under this title.

Advanced Computerized Vocational Technical Curriculum Management

OCED 5595 ***3 cr.*** ●

This course provides an orientation and application of Lotus 1-2-3 for the vocational technical setting. This software is a recognized leader in the microcomputer spreadsheets market with its ease of use, size, and power. Students learn through hands-on experience how to plan, design, implement and perform analysis utilizing a microcomputer and Lotus 1-2-3. Additionally, a historical view of spreadsheets and their impact on the manner in which effective organizations operate in the planning, creating, saving, and printing of data is emphasized. Participants interpret data using database functions and by creating and printing graphs.
Note: This course may be used as a computer science cluster requirement.

Philosophy

Key to Course Offerings

- Q: designates courses in the Quantitative Scientific Cluster
- I: the Ideas and Events Cluster
- B: the Human Behavior Cluster
- L: the Literature, Language and Arts Cluster
- C: Multicultural
- IDIS: Interdisciplinary courses

Multicultural and interdisciplinary courses also fulfill a cluster designation.

- * Asterisk indicates that the course may be offered less than once every two years.
- ▲ Undergraduate Day School
- ● Undergraduate Evening School

Introduction to Western Philosophy

PHIL 1000 ***3 cr. 3 hr.*** ▲ ●

The course serves as an introduction to the problems, methods, and goals of classical and contemporary Western Philosophy. Emphasis is placed upon how these differ from and relate to other fields of human knowledge. I

Logic

PHIL 1100 ***3 cr. 3 hr.*** ▲ ●

The course introduces techniques for analyzing the structure and validity of arguments in a natural language, such as English, as well as the concepts and principles of validity. Emphasis is on truth-functional and quantification inference, and a procedure in formal systems. L, Q, IDIS.

Philosophy of Education

PHIL 2000 ***3 cr. 3 hr.*** ▲ ●

This course seeks to trace the origin and development of major educational theories and their contemporary implications. I

Theories of Knowledge

****PHIL 2200*** ***3 cr. 3 hr.*** ▲

The problems and methods of human knowledge are explored. Theories are presented in the light of idealism, realism, pragmatism, and existentialism. I
Prerequisite: PHIL 1000.

American Philosophy

****PHIL 2440*** ***3 cr. 3 hr.*** ▲

The course presents a study of American thought from the Colonial Period to the present. I

Contemporary Ethical Problems

PHIL 2500 ***3 cr. 3 hr.*** ▲ ●

The nature of values and morality. Application of ethical theory to such controversial moral issues as criminal punishment and the death penalty, abortion, euthanasia and suicide, the ethical treatment of animals, poverty and the distribution of wealth, prejudice and discrimination, affirmative action, civil disobedience, and war. I

Contemporary Ethical Systems

PHIL 2550 ***3 cr. 3 hr.*** ▲

A critical examination of the major ethical theories in classical and contemporary philosophy including Aristotle's perfectionism, Aquinas' natural law ethics, Kant's deontological ethics, Bentham and Mill's utilitarianism, existentialism, emotivism, and personalism. Topics covered include values and facts; morality and ethics; objectivism, subjectivism, and relativism; ethics and science; and ethics and religion. I

Philosophy of Human Nature

PHIL 2600 ***3 cr. 3 hr.*** ▲ ●

The course provides an exploration of human nature or personhood from the triple perspectives of philosophy, religion, and behavioral science. The class focuses on the following thinkers and movements: Plato, Christianity, early modern individualism, Marxism, Freud, existentialism, Frankl's logotherapy, Skinner, Fromm's humanism and personalism. I, B, IDIS.

Man and Nature I

****PHIL 2650*** ***3 cr. 3 hr.*** ▲

This course is based, in part, on the Ascent of Man film series by Jacob Bronowski. It covers a broad range of topics centering on those discoveries, ideas, and events that have been crucial to the development of modern civilization. The origin of man, ancient civilizations, early mathematics, and astronomy are among the topics covered.

Man and Nature II

****PHIL 2660*** ***3 cr. 3 hr.*** ▲

The course is a continuation of PHIL 4650 covering the period from the trial of Galileo to the present, dealing with such topics as evolution, nuclear physics, the theory of relativity, and the human brain.

Modern Philosophy

PHIL 3300 ***3 cr. 3 hr.*** ▲

Ancient and Medieval Philosophy

PHIL 3310 **3 cr. 3 hr.** ▲

The course studies the beginnings of Western Philosophy, including the pre-Socrates, Plato, Aristotle, and several other thinkers of the period. I

Prerequisite: PHIL 1000.

Renaissance and Modern Philosophy

****PHIL 3330*** **3 cr. 3 hr.** ▲

The course explores trends of thought from fourteenth century nominalism through the Renaissance to Continental Rationalism and British Empiricism. I

Prerequisite: PHIL 1000.

Contemporary Philosophy

PHIL 3340 **3 cr. 3 hr.** ▲

The course provides an examination of some current trends and issues in contemporary American, British, and European philosophy. I, IDIS

Prerequisite: PHIL 1000.

Philosophy of Religion

****PHIL 3600*** **3 cr. 3 hr.** ▲ ●

The nature of religious experience and the problem of God's existence as seen in classical Western theism and process philosophy. Differences between Western and Eastern religion, and between religion and science. I

Prerequisite: PHIL 1000.

World Religions

PHIL 3610 **3 cr. 3 hr.** ▲

This course studies the principal world religions, including Buddhism, Christianity, Islam, Hinduism, and Judaism. Emphasis is placed on their basic tenets and insights into spiritual values. I, C

Philosophy of Art

****PHIL 4100*** **3 cr. 3 hr.** ▲

The nature of beauty and aesthetic experience, especially as embodied in the arts. Relation of aesthetic experience to moral and technological experience. Survey and critical evaluation of different theories of aesthetics in Western philosophy. Synthesis of subjective and objective theories. I

Political and Social Philosophy

PHIL 4200 **3 cr. 3 hr.** ▲

The course examines the various political and social ideas beginning with Plato and continuing to Marx. I

Prerequisite: PHIL 1000.

Philosophy of Science

****PHIL 4300*** **3 cr. 3 hr.** ▲

The course analyzes the methods and goals of the physical sciences, how they differ from the social sciences, and the philosophic problems encountered in scientific pursuits. I

Philosophy of Language

****PHIL 4400*** **3 cr. 3 hr.** ▲

This course is the study of theories about structure and meaningfulness of language, especially in twentieth century Anglo-American thought. I

Prerequisite: PHIL 1000.

Marxism

****PHIL 4430*** **3 cr. 3 hr.** ▲

Origins, development, and contemporary application of Marx's thought are explored. The course attempts to provide an understanding of society and history by a philosophy identified with political economy. I, IDIS.

Prerequisite: PHIL 1000.

Philosophy of Love

PHIL 4500 **3 cr. 3 hr.** ●

The course analyzes the concept "love" as employed in the social and moral philosophies of various classical and contemporary thinkers. I

Ethical Issues in Business

PHIL 4700 **3 cr.** ●

The first objective of the course is to develop proficiency in the identification and analysis of ethical issues as they arise in business. The second objective is to acquaint the student with some specific ethical problems currently faced by business men and women: whistle-blowing, discrimination, truth in advertising, product safety and the environment. Both theoretical and actual cases are studied as well as two current ethical theories. I

Independent Study

PHIL 4903 **3 cr. 3 hr.** ▲ ●

The Independent Study is open to students who have permission of the supervising instructor and the Department chairperson. Course of study, meetings, and credit are arranged with approval.

Topics in Philosophy

PHIL 5000 **3 cr. 3 hr.** ▲ ●

Courses having a more narrow focus or those taught on an irregular basis may be offered under the "Topics" heading. New courses may also be taught on an experimental basis under this title.

Physical Education

Key to Course Offerings

Q: designates courses in the Quantitative Scientific Cluster

I: the Ideas and Events Cluster

B: the Human Behavior Cluster

L: the Literature, Language and Arts Cluster

C: Multicultural

IDIS: Interdisciplinary courses

Multicultural and interdisciplinary courses also fulfill a cluster designation.

* Asterisk indicates that the course may be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

The courses in Physical Education are identified as Group 1, 2, 3 and Professional to designate the course options for fulfillment of the Health and Fitness requirement in the Liberal Arts and Sciences Programs. One course from Group I or three courses from Group II or two courses from Group II and one course from Group III meet this requirement. Some courses in Group I are also professional.

Group I

Health and Fitness

PHED 1000 **3 cr. 3 hr.** ▲ ●

The course provides a basic survey of the effects of diet, exercise, and selected environmental agents on the mental and physical health of humans. Topics may include body build and body composition, fitness evaluation and programming, nutritional considerations, psychological correlates of health, chemical alterations, human sexuality, and personal and public health.

Leadership in the Outdoors

LEAD 1140 **1 cr. 1 hr.** ▲

This course is part of the Leadership Academy and partially satisfies the Health and Fitness requirement for the Academy students. Using adventure activities, students will have an opportunity to identify their leadership skills, experiment with new leadership strategies and identify one or two areas for future development of their leadership skills. Also, students will develop a sense of comradery and discover that outdoor adventure activities are an enjoyable part of a healthy lifestyle.

Adaptations

PHED 3050 ***3 cr. 3 hr.*** ▲

The course is designed to integrate the natural and exercise sciences from the standpoint that survival of the organism depends upon its ability to adapt to a given environment. The acute and chronic effects of several stressors found within the environment such as oxygen, light/dark, exercise, heat/cold, emotion/stress, altitude, nutrition and evolution are studied in the classroom and the laboratory. Q, IDIS

Exercise, Nutrition, and Heart Disease

PHED 3060 ***3 cr. 3 hr.*** ▲ ●

This course is designed to examine the integrative relationships inherent in the study of exercise, nutrition, and heart disease. Body build and body composition assessments are made, exercise prescriptions and programs are developed, and prevalent controversies in the areas of obesity, dietary goals, guidelines and plans, atherosclerosis, and heart disease are discussed.

Exercise Physiology

****PHED 3070*** ***3 cr. 4 hr.*** ▲

This course focuses upon two basic physiologic systems: the energy yielding (metabolic) and cardiorespiratory. These systems are studied as to how they respond to the stressors of exercise and environmental extremes (altitude, heat, cold). Applied topics such as nutrition for performance, body composition, and prescribing exercise for healthy adults and athletes are discussed. The purpose of the lab portion of the course is to expose the student to the tools used by the exercise physiologist to answer applied questions about the physiologic responses to exercise.

Group II

Jogging: Theory and Practice

PHED 2000 ***1 cr. 2 hr.*** ▲

The theories and practices of cardiovascular conditioning using jogging as the activity mode are presented. Pre-post cardiovascular and body composition evaluations are made and program prescriptions are designed. Topics covered include training principles and programs, energy sources, aerobic and anaerobic processes, nutrition, exercise and weight control, exercise training effects, psychological considerations, environmental conditions, injuries, and running.

Consumer Health

PHED 2030 ***1 cr. 1 hr.*** ▲

This course is designed to help the student evaluate health and fitness information critically, and select products and services wisely. The areas of quackery, alternative medicine, nutrition, personal fitness and consumer protection are studied. The course is a requirement of Leadership Academy students.

Diet, Exercise, and Weight Control

PHED 2040 ***1 cr. 2 hr.*** ▲

The course is designed for those interested in weight loss or weight maintenance through the medium of diet and exercise. After an initial assessment of body composition, aerobic fitness, muscular fitness, and the establishment of dietary goals, each student works toward body weight goals through actual programs of exercise and diet.

Body Shaping

PHED 2070 ***1 cr. 2 hr.*** ▲

The theory of weight training and diet in relation to body shaping is discussed. Each student undergoes physique, body composition, aerobic fitness, and muscular strength evaluations before and after a weight training program.

Weight Training for Athletes

PHED 2080 ***1 cr. 2 hr.*** ▲

The course examines theory for the development of muscular strength for specific athletic activities. Anthropometric, body composition, and muscular strength evaluations are assessed prior to and following an individually developed weight training program.

Standard First Aid/Adult CPR

PHED 2090 ***1 cr. 2 hr.*** ▲ ●

A behaviorally oriented course structured for those responsible for the safety and protection of others. Standard First Aid and Adult CPR certificates are issued if the student satisfies all the American Red Cross requirements.

Techniques of Road Racing

PHED 2110 ***1 cr. 2 hr.*** ▲

The purpose of the course is to acquaint the student with various topics of running long distance road races. Topics covered include the physiology of running, training strategies, injury care and prevention, nutritional aspects and methods of assessing running ability. Each student undertakes a training program, and participates in three road races.

Stress Management

PHED 2120 ***1 cr. 1 hr.*** ▲

This course is a multifaceted and holistic approach to the understanding and control of stress in a wellness context. Topics covered include stress psychophysiology, the relationship between stress and illness, life situation and perception interventions, time management, and bioecological stressors. Also, the study and implementation of specific relaxation techniques such as diaphragmatic breathing, progressive relaxation, exercise, autogenics, and mediation will be covered.

Exercise Testing and Prescription

PHED 3450 ***3 cr. 4 hr.*** ▲

Theory and practice for evaluating and prescribing exercise for the enhancement of the functional capacity of the cardiopulmonary, metabolic, and musculoskeletal systems in health and disease. Basic topics to be covered include: functional anatomy and biomechanics, basic exercise physiology, human development and aging, human behavior/motivation, basic electrocardiography, pathophysiology/risk factors, health appraisal and fitness testing, exercise programming, nutrition and weight management, and program administration. This course is based upon knowledge required for certification as a Health/Fitness Instructor by the American College of Sports Medicine.

Group III

Activity courses are taught on a semester basis. Each semester carries two clock hours and one credit.

PHED 1010 Basketball
PHED 1020 Volleyball
PHED 1040 Tennis
PHED 1050 Advanced Tennis
PHED 1060 Badminton
PHED 1070 Karate
PHED 1080 Judo
PHED 1120 Aerobics
PHED 1130 Dance Aerobics
PHED 1150 Canoeing
PHED 1170 Introduction to Mountain Hiking
PHED 1180 Backpacking
PHED 1190 Downhill Skiing
PHED 1200 Cross Country Skiing
PHED 1210 Modern Jazz I
PHED 1220 Modern Jazz II
PHED 1230 Modern Jazz III
PHED 1240 Yoga
PHED 1250 Bicycle Touring
PHED 1280 Orienteering
PHED 1300 Recreational Sports
PHED 1310 African Jazz Dance

Professional Courses

Fundamentals of Coaching

PHED 4000 ***3 cr. 3 hr.*** ▲

An analysis of the principles and practices of coaching in various sports is presented for the prospective teacher/coach.

Recreational Leadership

PHED 4010 ***3 cr. 3 hr.*** ▲

The organization and administration of recreational activities are presented in reference to the development of the principles and practices in both school and community programs.

Camp Counseling

****PHED 4020*** ***3 cr. 3 hr.*** ▲

Course content provides an opportunity to study some of the problems in the field of camping. Emphasis is placed on acquiring essential skills for camp life, developing various leadership styles as a camp counselor, and addressing the individual and group needs of campers.

Physical Education, Fitness and Sport: An Overview

PHED 4030 ***3 cr. 3 hr.*** ▲

This course is designed to provide the student with an overview of the philosophic history, administrative/management patterns, and current professional and academic disciplinary program approaches in physical education, fitness, and sport. Emphasis will be directed towards the new and changing nature of physical education relative to career perspectives.

Motor Learning and Physical Performance

PHED 4040 ***3 cr. 3 hr.*** ▲

This course is designed to provide students with an overview of the study of motor learning and physical performance. Selected motor learning theories and the factors of skill acquisition are covered relative to the physical performance parameters of practice and the applied processes of instruction.

Art of Dance (Arts Credit)

PHED 4050 ***3 cr. 3 hr.*** ▲ ●

This course offers students the opportunity to experience dance aesthetically, kinesthetically, and intellectually. Representative styles from tribal through contemporary dance are covered. Videotapes, movement labs, papers, presentations, concert attendance, and performance are included. Teaching in the After School Movement Program at McKay is an option. L, C

Outdoor Education

PHED 4060 ***3 cr. 3 hr.*** ▲

This course is designed to explore and experience the use of the outdoors as a medium in the educational process. Topics covered include introduction to outdoor education, teaching methodology, basic principles of high adventure activities, school camping, and outdoor education programs. Students participate in a number of outdoor adventure activities.

Introduction to Dance Movement Therapy

PHED 4070 ***3 cr. 3 hr.*** ▲

The purpose of this course is to study dance therapy and movement processes designed to further physical and emotional interaction. Kinesthetic principles and practices are explored through structured and improvised movement experiences. Effort/Shape Analysis and Chase-Movement Therapy techniques are utilized to enable students to increase their movement ranges, discover their own movement preferences, and develop leadership skills. Teaching in the After School Movement Program at McKay is an option.

Physical Education in the Elementary School

PHED 4080 ***1 cr. 2 hr.*** ▲

This theory and practice course is designed to guide the classroom teacher in organizing a comprehensive program of physical education and recreational activities.

Movement Education

PHED 4100 ***3 cr. 3 hr.*** ▲

Movement Education is a theoretical and an experiential course designed for working with the creative process in an interdisciplinary manner. The relationship of movement in developmental processes is explored. Movement experiences, group leadership, curriculum development, and evaluation are covered. Teaching in the After School Movement Program at McKay is an option.

Programs in Recreation

PHED 4110 ***3 cr. 3 hr.*** ▲

This course is designed to acquaint students with different types of programs in the recreation field. The development of traditional and innovative programs are explored and evaluated in the classroom and through field trips. Topics covered include program foundations, traditional and innovative curricula, program planning, implementation, and evaluation.

Biomechanics of Sport

PHED 4120 ***3 cr. 4 hr.*** ▲

The course involves a study of the anatomical and mechanical aspects that underlie human motion. Anatomical considerations include joint-function and structure, physiology of muscle function, and neuromuscular integration. Mechanical considerations include describing motion in terms of linear and angular acceleration, velocity, and projectiles, and the determination of motion by studying force, inertia, mass, momentum, impulse, friction, buoyancy, center of gravity, stability, and drag and lift. The application of these anatomical and mechanical principles are related to the improvement of performance of selected sports. Q, IDIS

Making Dances: Choreography and Composition

PHED 4130 ***3 cr. 3 hr.*** ▲ ●

Opportunities to develop and analyze the structure and imagery of dances and music are offered. Each participant works improvisationally as choreographer and dancer in the development of solo performances as well as small and large group works. This course includes concert attendance, performance, reading and written assignments. Teaching in the After School Movement Program at McKay is an option. L

Scientific Foundations of Strength Training and Conditioning

PHED 4140 ***3 cr. 3 hr.*** ▲

The course combines the theoretical and practical aspects of strength training and conditioning. Topics covered include exercise and fitness-related principles and practices of physiology, neuromotor control, biochemistry, anatomy, biomechanics, and endocrinology. The development of state-of-the-art, safe, and effective strength and cardiorespiratory endurance training programs are presented.

Psychology of Sport

PHED 4160 ***1 cr. 2 hr.*** ▲

The course provides a basic overview of the psychological impact of sport upon participants and spectators. The areas of motivation, winning and losing, competition, behavior modification, and aggression are explored.

Independent Study

PHED 4900 ***1-3 cr.*** ▲ ●

The Independent Study is open to students who have permission of the supervising instructor and the department. Course of study, meetings, and credit are arranged upon approval.

Internship

PHED 4950 ***3-6 cr.*** ▲

The course is designed for Business Administration/Fitness Management majors. The students gain a field experience at an outside agency related to the fitness industry. Assignments are contingent upon the student's abilities, interests, career goals, and acceptance by the cooperating institution. A paper and oral presentation are required.

Directed Study

PHED 4975 ***1-6 cr.***

Topics in Physical Education

PHED 5000 ***1 cr. 1 hr.*** ▲ ●

Courses having a narrow focus or those taught on an irregular basis may be offered under the "Topics" heading. New courses may also be taught on an experimental basis under this title.

Physics

Key to Course Offerings

Q: designates courses in the Quantitative Scientific Cluster

I: the Ideas and Events Cluster

B: the Human Behavior Cluster

L: the Literature, Language and Arts Cluster

C: Multicultural

IDIS: Interdisciplinary courses

Multicultural and interdisciplinary courses also fulfill a cluster designation.

* Asterisk indicates that the course may be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

Environmental Physical Science

****PHYS 1040*** ***3 cr. 4 hr.*** ▲

The course studies the environment, the effects of pollution on the environment, ecosystems, and natural balance. Relevant background material in physical science is taught as needed.

Prerequisites: Physical Science I, Earth, Sea, and Air, or equivalent.

Physical Science I

PHYS 1100 ***3 cr. 4 hr.*** ▲ ●

The emphasis of the course is on the building of conceptual models, problem solving techniques, and the processes of science. The class is recommended for the non-scientist. Q

Physical Science II

PHYS 1200 ***3 cr. 4 hr.*** ▲ ●

This is a follow up course to Physical Science I (PHYS 1100). It utilizes the same approach to problem solving in science as the first course. Q

General Physics I

PHYS 1300 ***4 cr. 5 hr.*** ▲ ●

This is a general college physics course in the principles and practical application of mechanics, waves, sound, and heat. Typical topics covered in class work include description of motions, Newton's laws of motion, Kepler's law of planetary motion, universal gravitation, work and energy, conservation laws, wave motion, sound, temperature, heat, and laws of thermodynamics. Topics discussed in each class may vary depending on students' interests and available laboratory equipment. Students are required to be able to manipulate algebraic equations. Q

Prerequisite: Math Placement Exam or MATH 0200.

General Physics II

PHYS 1400 ***4 cr. 5 hr.*** ▲ ●

This second-semester general college physics course consists of studies in electricity, magnetism, light, and optics. Topics covered in class work include Coulomb's law, electric force and field, potential and capacitance, electric circuits, magnetic force and field, magnetic forces on a current-carrying conductor, induction, laws of reflection and refraction, mirrors and lenses, optical instruments, interference, diffraction, and polarization of light. Topics discussed in each class may vary depending on students' interests and available laboratory equipment. Students are required to be able to manipulate algebraic equations. Q

Prerequisite: PHYS 2300, Math Placement Exam or MATH 0200.

Physics for the Life Sciences

****PHYS 1500*** ***4 cr. 6 hr.*** ▲

The class serves as an introduction to Physics. Class work includes a brief treatment of force, work, and energy with an emphasis on the nature of waves, optics, and electricity.

Astronomy

PHYS 2000 ***3 cr. 3 hr.*** ▲ ●

Emphasis of this course is on the properties of stars. The course begins with a description of the internal structure of the earth, its atmosphere, its motions, etc. Moon, its structure and surface features are studied next. After a brief discussion of optical and radio telescopes, the students are introduced to a rudimentary account of physics of stars such as their surface temperatures, distances, their velocities, etc. Sun is studied as a typical star. Binaries and variable stars (cepheids, novae and supernovae, etc.) interstellar medium and finally galaxies round off the course. Q

General Physics III

***PHYS 2100** **3 cr. 3 hr.** ▲

This third-semester of general college physics course discusses the inadequacy of classical physics and introduces the theories and models of modern physics. Topics covered in class work include the development of quantum theory as depicted in blackbody radiation, photoelectric effect, and x-rays, the wave function and the uncertainty principle, atomic spectra, Bohr's model of hydrogen, electronic configuration of atoms, the exclusion principle and the periodic table, properties of nuclei, binding energy, radioactivity and the decay processes, radiation hazards, and nuclear reactions. Q

Prerequisites: PHYS 1300 and PHYS 1400.

Intermediate Mechanics

***PHYS 2200** **3 cr. 3 hr.** ▲

Calculus and delta methods are used in an analytical study of Newtonian mechanics with emphasis on application to nonconservative forces, central forces, and rotational dynamics. Topics covered in class work are linear oscillator, free and forced oscillations, damping, vibrating string, traveling and standing waves.

Prerequisite: PHYS 1300 or equivalent.

Quantum Mechanics

***PHYS 3100** **3 cr. 3 hr.** ▲

The course examines the inadequacies of classical physics, including the uncertainty principle, Schrodinger equation, physical interpretation of wave function, energy levels, harmonic oscillator, hydrogen atom, and perturbation theory.

Prerequisites: PHYS 2100 and MATH 2400.

Electricity and Magnetism

***PHYS 3200** **3 cr. 3 hr.** ▲

After a preliminary introduction to vector algebra, electrostatic and magnetostatic fields in vacuum and material media are discussed. Maxwell's equations and propagation of electromagnetic waves are considered.

Statistical Mechanics and Thermodynamics

***PHYS 4100** **3 cr. 3 hr.** ▲

The course examines the laws of thermodynamics, entropy, Carnot cycle, kinetic theory of gases, Bose and Fermi gases, and low temperature physics.

Prerequisite: PHYS 3100.

Solid State Physics

***PHYS 4200** **3 cr. 3 hr.** ▲

The course provides a short review of quantum mechanics, including crystal structure magnetism semiconductor theory and specific heat of solids.

Prerequisite: CSC 1600.

Independent Study

***PHYS 4900** **3 cr.** ▲

The Independent Study is open to students who have permission of the supervising instructor and the department. The course of study, meetings, and credit are arranged upon approval.

Directed Study

***PHYS 4975** **1-6 cr.**

Topics in Physics

***PHYS 5000** **3 cr. 3 hr.** ▲

Courses having a more narrow focus or those taught on an irregular basis may be offered under the "Topics" heading. New courses may also be taught on an experimental basis under this title.

Plastics Technology

Key to Course Offerings

- * Asterisk indicates that the course may be offered less than once every two years.
- ▲ Undergraduate Day School
- ● Undergraduate Evening School

These courses are only offered through Continuing Education.

Statistical Process Control

***PLAS 5501** **3 cr.** ●

The student learns the use of Statistical Methods and S.P.C. to improve quality and productivity through measurement, control, and reduction of variation in the process. Topics covered include: basic statistics, the normal distribution, control chart theory, process capability studies and gage and measurement analysis. Simple metrology concepts and the basics of geometric dimensioning/tolerancing are also covered.

Injection Molding

***PLAS 5502** **3 cr.** ●

The reciprocating screw injection molding machine; the components of injection molding machines; the molding cycle; melting and flow theory, including gate seal-off, basic trouble shooting and process effects are examined. The students have hands-on laboratory experience and are responsible for a class presentation.

Industrial Electrical Maintenance

PLAS 5503

This course covers the concepts of electrical trouble-shooting of injection molding machines and associated equipment. Familiarization with basic electricity symbols, blueprint reading, meters used for trouble-shooting, conventional and solid ladder diagrams/schematics, and trouble-shooting is stressed. Programmable Logic Controls (PLC) are examined.

Mold Design

***PLAS 5504** **3 cr.** ●

This course examines the interrelation of plastics material processing, product design and function, and mold design and construction. Fundamental principles of cavity design, material feed systems, ejection systems, parting surfaces, mold actions, cavity and core steel selections, 3-plate, insulated runner, and hot runner molds are discussed.

Prerequisite: PLAS 5506.

Principles of Supervision

PLAS 5505 ***3 cr.*** ●

The purpose of this course is to develop an understanding of the role and responsibilities of the supervisor and to strengthen values and skills related to key supervisory functions. The principles and topics addressed include problem solving, decision making, leadership, management ethics, and communication. This course is recommended for experienced and new supervisors and those aspiring to supervisory positions.

Blueprint Reading

PLAS 5506 ***3 cr.*** ●

This course introduces the basic concepts of blueprint reading and discusses types of lines, angles, and views of a drawing. The student also learns about dimensioning circles, arcs, holes, and threads. Emphasis is on understanding how to interpret a blueprint; with time permitting, students learn how to draw a blueprint.

Polymeric Materials, Design, and Application

PLAS 5507 ***3 cr.*** ●

This course provides comprehensive coverage of polymeric materials, plastic design, and test methodology. Material properties, characteristics, and application are presented for injection molded thermoplastic resins. A discussion of polymer blends and compounds using fillers, additives, and reinforcing fibers are included. Property identification and the associated test procedure are reviewed with hands-on testing provided for the major properties. In addition, plastic product design techniques and application are discussed to complement the discussion of materials.

Hydraulics/Pneumatics

PLAS 5508 ***3 cr.*** ●

This course involves a theoretical and practical study of hydraulics and pneumatics, the modern means of power transmission. This course surveys component design and function with an emphasis on problem definitions and solutions. Following an introduction to hydraulics and pneumatics, a study is made of valves, pumps, circuits, and trouble-shooting any hydraulic system.

Political Science

Key to Course Offerings

Q: designates courses in the Quantitative Scientific Cluster

I: the Ideas and Events Cluster

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IDIS: Interdisciplinary courses

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▲ Undergraduate Day School

● Undergraduate Evening School

United States Government

POLS 1000 ***3 cr. 3 hr.*** ▲

In Modern American Government, the major political institutions, such as the Presidency, the Congress, and the Supreme Court, are examined. Their constitutional antecedents and their modern functions are presented. Special attention is given to the current bureaucracy, elections, and the political actors in the election process. I

Introduction to Political Science

POLS 1100 ***3 cr. 3 hr.*** ▲

This course represents an introduction to the field of political science. Political science is the study of how people interact with one another in their communities, whether they are as small as the Fitchburg State College campus, or as large as the entire global community. The course is divided into the following three sections, each of which represents an important sub-field within the discipline: political philosophy, American government, and international politics. I

State and Urban Government

POLS 1500 ***3 cr. 3 hr.*** ▲

The class focuses upon current issues and politics in urban and state government and attempts to evaluate proposed solutions to issues. I

Global Issues

IDIS 1800 ***3 cr. 3 hr.*** ▲ ●

This course examines the interdependency of the world's nations by focusing on current events in the international arena and issues such as ozone depletion, pollution, the global economy, conflict and cooperation, population and hunger. I, IDIS, C

Contemporary International Relations

POLS 2200 ***3 cr. 3 hr.*** ▲

The course studies critical problems confronting the present international system. The "Cold War," armed conflict, internal violence, as well as prospects for the resolution of conflict are explored.

Introduction to the Legal Process

POLS 2270 ***3 cr. 3 hr.*** ▲ ●

The course serves as an introduction to the American legal system. Emphasis is placed on how courts and lawyers function, how cases are decided, and the means by which courts interpret legislation. The class is open to any student, but is recommended for those interested in the legal Internship program.

Political Systems of the Modern World

POLS 2500 ***3 cr. 3 hr.*** ▲

The course provides a comparative analysis of modern national governments, such as Russia, France, Germany, and Great Britain. The importance of the world's political heritage and the implications for the emerging nations of liberal democracy, communism, and dictatorship are explored.

Public Policy Analysis: Case Studies in American Politics

POLS 3000 ***3 cr. 3 hr.*** ▲

The course covers four major divisions of public policy: health, education, labor, and welfare. The aim is to attain an understanding of how the American political system works through a study of the policy that has come out of that system.
Prerequisite: POLS 1000 or POLS 1500.

Constitutional Law

POLS 3500 ***3 cr. 3 hr.*** ▲

Constitutional Law is the product of interpretation, power, and political calculation. The collusion and collision of these forces produces the parameters of our governmental system. The U.S. Supreme Court over the years has issued many decisions which have fundamentally shaped and altered the scope and distribution of government authority. This course is the study of the product of these decisions and the shaped our current system of government. I

Civil Rights and Civil Liberties in the United States

***POLS 3600** 3 cr. 3 hr. ▲

The course presents conceptual perspectives and politics of civil rights and civil liberties. Emphasis is placed on freedom of expression and the problem of loyalty and security, equality, the civil rights movement, and criminal justice procedures.

Asian Politics and Culture

***POLS 3700** 3 cr. 3 hr. ▲

This course introduces the politics and culture of three major Asian states: China, Japan, and India. It begins with their philosophy, history, and society to give students a basic understanding of the Asian peoples and then, approaches their politics. I, C

Third World Politics, Economics, and Society

***POLS 3800** 3 cr. 3 hr. ▲

The course represents an introduction to the developing nations of Africa, Asia, and Latin America. These developing nations have a significant impact on global politics. Through an examination of the history, politics, economics, and societies of these nations, the students will gain a greater understanding of the developing world. I, IDIS, C

Independent Study in Political Science

***POLS 4900** 3 cr. 3 hr. ▲ ●

The Independent Study is open to students who have the permission of the supervising instructor and the department. The course of study, meetings, and credit are arranged upon approval.

Legal Internship

***POLS 4905** 3 cr. 10 hr. ▲

Internships are available in several regional law offices for those persons interested in paralegal work. These internships prepare students for positions in law offices, public administration, and other human services work.

Legal Internship

***POLS 4910** 3 cr. 20 hr. ▲ ●

(See description above.)

Legal Internship

***POLS 4915** 6 cr. 30 hr. ▲

(See description above.)

Legal Internship

***POLS 4920** 9 cr. 40 hr. ▲

(See description above.)

Internships in Political Science

***POLS 4940** 3-9 ▲

Off-campus opportunities, carrying appropriate academic credit, are available in local, state, and federal government offices and with political campaigns. Internships are open to students who have the permission of the department. Credit and hours are arranged by special permission.

Directed Study

***POLS 4975** 1-6 cr.

Topics in Political Science

***POLS 5000** 3 cr. 3 hr. ▲ ●

Courses having a more narrow focus or those taught on an irregular basis may be offered under the "Topics" heading. New courses may also be taught on an experimental basis under this title.

Psychology

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▲ Undergraduate Day School

● Undergraduate Evening School

General Psychology

***PSY 1100** 3 cr. 3 hr. ▲ ●

The course introduces the student to the contemporary discipline of the science of human behavior and mental processes. Topics investigated include the scientific method, biological bases of behavior, maturation, motivation, emotions, learning, personality, and adjustment. The course is prerequisite for all other courses in Psychology. B

Introduction to Research Methods

***PSY 2110** 3 cr. 3 hr. ▲ ●

The emphasis in this course is on research design, including consideration of sampling procedures, questionnaire design, methods of observation, and reporting. Q

Prerequisite: PSY 1100.

Psychological Statistics

***PSY 2120** 3 cr. 3 hr. ▲

This course expands upon the mathematical concepts introduced in Math 1700. Descriptive statistics are reviewed and inferential statistics are introduced. Analyses considered include t-tests and analysis of variance up to and including factorial designs. Computer analysis is also emphasized. The class meets partial LAS requirement for computer literacy in Psychology major.

Prerequisites: PSY 1100, PSY 2110, and MATH 1700.

The Psychology of Speech and Communication

PSY 2160 ***3 cr. 3 hr.*** ▲

This course provides information for judging speech behaviors of self and others. Topics such as concepts of speech, language and communication, effective speaking and listening behaviors, non-verbal communication, animal communication, linguistic and psycholinguistic theory are covered. The class meets LAS speaking and listening requirement for the Psychology major. B

Prerequisite: PSY 1100.

Human Growth and Development

PSY 2200 ***3 cr. 3 hr.*** ▲ ●

This life-span course emphasizes a study of the physical, physiological, social, and psychological development of the individual from conception to old age. B

Prerequisite: PSY 1100. (Cannot be used as credit toward the major, but may be used for the minor.)

Child Psychology

PSY 2210 ***3 cr. 3 hr.*** ▲ ●

This course offers an introductory overview of the developing child from conception through preadolescence. Theories and research are used to lay the foundation for the study of the physical, cognitive, social, and emotional development of the child. Also considered are such topics as attachment, moral development, language acquisition, and genetic and environmental influences on development. This course meets the Office for Children requirement for Category-A daycare certification. B

Prerequisite: PSY 1100.

Adolescent Psychology

PSY 2230 ***3 cr. 3 hr.*** ▲ ●

Adolescence as a stage of development and as a cultural phenomenon is investigated in this course. The influence of physical, cognitive, and psychosocial factors on the adolescent's search for identity is examined. Emphasis is on an interdisciplinary approach that draws on relevant theories and research from a wide range of fields. B

Prerequisite: PSY 1100.

Adult Development

PSY 2240 ***3 cr. 3 hr.*** ▲

This course introduces the student to theories and research for the periods of young and middle adulthood. Physical, mental, and personality processes are covered, as well as issues and problems of research in adult development. Application of this knowledge to adults in their relationships and in their work settings is stressed. B

Prerequisite: PSY 1100.

Psychology of Women

PSY 2250 ***3 cr. 3 hr.*** ▲

Objectives of this course include an increased awareness of the psychological development of women and of the dimensions of self and personhood in relation to society. The examination and analysis of issues relative to current debate concerning the status of women is explored.

Prerequisite: PSY 1100.

Gerontology: The Psychology of Growing Old

PSY 2260 ***3 cr. 3 hr.*** ▲

This course examines the developmental changes, including both gains and losses, which occur in the later part of the life span. The course focuses on theory and research related to biological, physical, cognitive, and psychosocial changes that occur in late life. The emphasis is on understanding the normal aging process. Research methods and designs used to study aging are also covered. B

Prerequisite: PSY 1100.

Psychology of Human Sexuality

PSY 2280 ***3 cr. 3 hr.*** ▲

This course includes a study of the relationships among the various aspects of sexuality, including relationships, social norms, and cross-cultural variations in sexual behavior. B

Prerequisite: PSY 1100.

Psychology of Personality

PSY 2300 ***3 cr. 3 hr.*** ▲ ●

Dynamic factors in personality formation are studied through some of the leading theoretical positions on personality development.

Prerequisite: PSY 1100.

Psychology of Death and Dying

PSY 2320 ***3 cr. 3 hr.*** ▲

Through lectures, readings, discussions, and media, students explore psychological theory, research, and personal feelings concerning the dying process, suicide, grief, sudden death, and dying as it influences persons at different developmental stages. B

Prerequisite: PSY 1100.

Psychology of Intimacy

PSY 2330 ***3 cr. 3 hr.*** ▲ ●

This course examines the dynamics of partner selection and the process of creating a relationship that maximizes the development of personal integrity and interpersonal security. B

Prerequisite: PSY 1100.

Abnormal Psychology

PSY 2350 ***3 cr. 3 hr.*** ▲ ●

The course reviews normal, neurotic, and psychotic behavior as well as methods of psychotherapy. Techniques for maintaining optimal psychological health are emphasized. B

Prerequisite: PSY 1100.

Interpersonal Effectiveness

PSY 2370 ***3 cr. 3 hr.*** ▲ ●

This is a lab-based course which introduces and develops interpersonal competence, particularly as it pertains to dyadic situations. Basic skill areas such as observation, listening, and questioning are addressed, as are integrative skills, such as conflict resolution and relationship development. Students are asked to become more aware of their own interpersonal behavior, and are introduced to the extensive research literature on interpersonal behavior. Applications in both the personal and the professional domain are addressed. The class meets LAS speaking and listening requirement for the Psychology major. B

Prerequisite: PSY 1100.

Psychology of Captivity

PSY 2400 ***3 cr. 3 hr.*** ▲

This course deals with the effects of captivity on both the captive and the captor. Materials include films, tapes, interviews, first-person accounts, systematic studies of experiences, and the long-term consequences on persons involved as well as on their children.

Prerequisite: PSY 1100.

Psychological Testing

PSY 2450 ***3 cr. 3 hr.*** ▲ ●

This course is designed to give students a broad understanding of the theory and use of psychological testing. Methods of test evaluation, analysis, and interpretation are presented. Standardized testing instruments used to measure human cognitive and affective factors are explored and their purposes reviewed.

Prerequisite: PSY 1100 and satisfaction of the math readiness requirement.

Social Psychology

PSY 2500 ***3 cr. 3 hr.*** ▲

This course provides an introduction to the study of human social behavior. Representative topics include attitudes and their formation, aggression, prosocial behavior, conformity, and interpersonal attraction, as well as group dynamics, structure, and leadership. The application of social-psychological research to contemporary social problems is also considered. B

Prerequisite: PSY 1100.

Group Dynamics

PSY 2550 ***3 cr. 3 hr.*** ▲ ●

The nature and dynamics of interpersonal relationships are revealed in typical group settings, such as classrooms, workshop seminars, and other discussion-oriented groups. Emphasis is on both content and process as demonstrated in a laboratory learning environment. The class meets LAS speaking and listening requirement for the Psychology major. B

Prerequisite: PSY 1100.

Small Group Leadership

PSY 2570 ***3 cr. 3 hr.*** ▲

This course is designed to equip students for planning and conducting meetings requiring the coordination of small groups of people. Participants study and practice basic leadership skills applicable to a variety of small group settings. They develop and demonstrate these skills in the context of small group participation in class and as leaders of extra class groups. The class meets LAS speaking and listening requirement for the Psychology major.

Prerequisite: PSY 1100.

Organizational Psychology

PSY 2610 ***3 cr. 3 hr.*** ▲ ●

This course examines organizational influences on motivation and satisfaction of the workforce. Methods of surveying organizational climate are introduced, and a variety of intervention methods are evaluated. Organizational experience in Japan, Western Europe, and the United States are analyzed and compared. B

Prerequisite: PSY 1100.

Work and the Individual

PSY 2620 ***3 cr. 3 hr.*** ▲

This course considers the ways in which individuals meet their needs for growth and development, while the organization meets its needs for worker productivity. How the organization's needs affect workers and how workers react to these pressures are subjects studied. Topics include work as a basic human need, relationships with co-workers, interpersonal skills, uses of power influence, leading and motivating others, meeting personal needs/job satisfaction, adaptation to change, problems in adaptation (alcohol, drugs, lack of competence, etc.), stress management, and career development. B

Prerequisite: PSY 1100.

Human Factors/Ergonomics

PSY 2630 ***3 cr. 3 hr.*** ▲

Students develop the ability to fit the demands of people and work together. Competence is developed in tailoring work conditions and equipment to facilitate human performance and in identifying the skills required by the job.

Prerequisite: PSY 1100.

Performance Appraisal and Development

PSY 2640 ***3 cr. 3 hr.*** ▲ ●

The definition, measurement, and development of performance in complex work roles is analyzed. An essential ingredient of the course is participatory workshops aimed at developing the skills of behavior observation, performance coaching, and training. B

Prerequisite: PSY 1100.

Personnel Psychology

PSY 2650 ***3 cr. 3 hr.*** ▲ ●

This course provides a treatment of the major issues in personnel psychology and emphasizes the psychological aspects of personnel systems. The focus of the course is on the psychological assessment of potential and current employees as a means for "fitting" workers into jobs. Emphasis is also placed on the employment discrimination issues that may emerge in the work setting and the use and interpretation of descriptive and inferential statistics in personnel decision making. B

Prerequisite: PSY 1100.

Learning Theory and Its Applications

PSY 2710 ***3 cr. 3 hr.*** ▲

This course focuses on the principles and theories of learning, as derived by both the laboratory psychologist and the educational researcher. Those theories are applied to various social settings, including the classroom, the family, etc. B

Prerequisite: PSY 1100.

Tests and Measurements

PSY 2750 ***3 cr. 3 hr.*** ▲

This course is a study of the basic statistical concepts and techniques of measurement. Emphasis is placed upon the application of these techniques to teacher-made tests and standardized tests used in education and psychology. B

Prerequisite: PSY 1100. (Cannot be used as credit toward the major but may be used for the minor.)

Principles of Guidance

PSY 2770 ***3 cr. 3 hr.*** ▲

This course introduces students to the psychological theory and research underpinning practice in school guidance counseling.

Prerequisite: PSY 1100.

Advanced Child Psychology

PSY 3220 ***3 cr. 3 hr.*** ▲

This course explores in greater depth principles and theories learned in PSY 2110 and acquaints the student with methodology used in contemporary research in child psychology. Through assigned exercises and individual projects, students focus on selected issues in child development. Students work directly with children in applying the principles and techniques learned in the course. Q, B

Prerequisites: PSY 2210 or PSY 2230. PSY 2110, MA 1700, a 2.5 cumulative average in Psychology and overall, and permission of Instructor. Strongly recommended: PSY 2120.

Experimental Psychology

PSY 3410 ***4 cr. 4 hr.*** ▲

This course is an analysis and study of the scientific method, experimental designs, and laboratory methods in behavioral science, emphasizing laboratory experiments and scientific communication of results. Students design, analyze, and report their own research. Computer data analysis is also covered. The course meets LAS junior/senior writing requirement as well as LAS requirement for computer literacy for the Psychology major.

Prerequisites: PSY 2110, 2120, and MATH 1700; junior or senior standing in the major, permission of Instructor.

Physiological Psychology

PSY 3420 ***3 cr. 3 hr.*** ▲

This course concentrates on the relationship between the nervous system and behavior. The experiments and theories of several disciplines that have contributed to this understanding are studied, including neuroanatomy, physiology, biochemistry and psychology. The course is designed to introduce and familiarize students with relevant information from each of these fields. Topics include hormones and sexual and aggressive behaviors; brain regulation of sleeping and dreaming; genetic, anatomical, physiological and neurochemical bases of emotions and mental disorders; biological, neural, and biochemical basis of learning and memory. Special emphasis is given to current research results in neuroscience and their implications for clinical application.

Q, B, IDIS

Prerequisite: PSY 1100.

Perception

PSY 3430 ***3 cr. 3 hr.*** ▲

In this course principles related to a person's awareness of his or her world are studied. Topics to be considered are psychophysics, the relationship between motivation learning and perception, the sensory bases of perception, and localization in space.

Prerequisite: PSY 1100.

History and Systems of Psychology

PSY 3480 ***3 cr. 3 hr.*** ▲

This advanced course provides a consideration of contemporary psychology as seen in its historical perspective. The development of psychological concepts and theories is traced from their antecedents in philosophy and the physical sciences.

Prerequisites: junior or senior standing, PSY 3420, PSY 3430, PSY 3500, PSY 3530, and PSY 3550.

Psychology of Learning

PSY 3500 ***3 cr. 3 hr.*** ▲

This course focuses on principles and theories of learning, including classical conditioning, operant conditioning, verbal learning, and acquisition of motor skills.

Prerequisite: PSY 1100.

Motivation

PSY 3530 ***3 cr. 3 hr.*** ▲ ●

Characteristics of motivated behavior, explanation of sources of motives, and application of theories to current research and interpersonal skills are studied in this course. Emphasis is on the biological, learned, and cognitive components of motivation. Topics include internal and external motives, the relationship of stress and motivation, the place of physiological processes in motivation, issues in motivation of others, motivation for aggressive/passive behaviors, and success/failure motivation. B

Prerequisite: PSY 1100.

Cognition

PSY 3550 ***3 cr. 3 hr.*** ▲

Serving as foundations for this course are the neuroscience of cognition and the historical roots upon which our present understanding of human information processing rests. Specific topic areas include attention, semantic and episodic memory, comprehension, categorization, language, problem-solving, and reasoning. Artificial intelligence and the emergence of cognitive science are also considered. Methodology is emphasized throughout the course as students consider classic research studies and apply various techniques in classroom exercises. B

Prerequisite: PSY 1100.

Teaching Practicum

PSY 4800 ***6 cr. 18 hr.*** ▲

PSY 4803 ***3 cr. 9 hr.*** ▲

Students assist an individual faculty member in the teaching of Psychology. Responsibilities vary with the course. The Teaching Practicum is offered by invitation of faculty only.

Prerequisite: 3.0 cumulative average overall and in the major.

Practicum in Psychology

PSY 4810 ***3 cr. 9 hr.*** ▲

PSY 4820 ***6 cr. 18 hr.*** ▲

Students perform basic and applied work in Psychology. Students work with staff in areas of mutual interest.

Prerequisite: a 2.5 cumulative average in psychology and permission of the Instructor.

Independent Study

PSY 4900 ***1-6 cr. 3-18 hr.*** ▲ ●

This experience is offered primarily to Psychology students of junior or senior standing, and requires approval of the professor and of the Psychology Curriculum Committee. The student must petition the Psychology Curriculum Committee the semester prior to undertaking the Independent Study. Independent Study may take the form of special advanced reading programs, problem identification and research, assistantships, or for acquisition of professional skills. Under no circumstances is Independent Study substituted for regularly scheduled courses. Independent Study may be taken for 1 to 6 semester hours.

Prerequisite: 3.0 cumulative average in the major.

Advanced Psychology Seminar

PSY 4920 ***3 cr. 3 hr.*** ▲

In this course students pursue advanced study in their discipline. Students complete a supervised research report and meet in a weekly seminar to discuss their projects and other research topics and issues.

Prerequisite: PSY 2110, 2120, 3410, MATH 1700.

Internship in Psychology

PSY 4950 ***6 cr. 18 hr.*** ▲

Through an Internship the student experiences thc relationship between courses in Psychology and their applications in the field. Work is carried on in settings approved by the department, faculty member, and an on-site supervisor. Internships are available in service agencies, business, and industry. Each Internship presupposes specific course background. Students are encouraged to discuss Internship plans with their advisors early in their college experience. Interested students must contact the Psychology Coordinator early in the prior semester of the year in which the Internship is desired. Business and industry Internships are offered only in the spring semester and some direct service Internships are available during the fall semester as well. Liability insurance is required of all students enrolled in this course.

Prerequisites: 2.5 cumulative average overall and in the major; program approval.

Internship in Psychology

PSY 4960 ***12 cr. 36 hr.*** ▲

Please refer to the preceding description and prerequisites for PSY 4950.

Directed Study

PSY 4975 ***1-6 cr.***

Topics in Psychology

PSY 5000 ***3 cr. 3 hr.*** ▲ ●

Courses are offered on an occasional, experimental basis, for supplementation and enrichment of program. More than one such course may be taken with permission.

Russian

Key to Course Offerings

Q: designates courses in the Quantitative Scientific Cluster

I: the Ideas and Events Cluster

B: the Human Behavior Cluster

L: the Literature, Language and Arts Cluster

C: Multicultural

IDIS: Interdisciplinary courses

Multicultural and interdisciplinary courses also fulfill a cluster designation.

* Asterisk indicates that the course may be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

Russian for Beginners I

****RUSS 1000*** ***3 cr. 3 hr.*** ▲

The correct pronunciation, reading ability, and fundamentals of grammar and syntax are taught in this class. Over the semester Russian gradually becomes the working classroom and laboratory language. L, C

Russian for Beginners II

****RUSS 1100*** ***3 cr. 3 hr.*** ▲

L, C

Intermediate Russian I

****RUSS 2000*** ***3 cr. 3 hr.*** ▲

The course involves remedial pronunciation, grammar review, conversation, and laboratory practice with Russian as the working language. Assigned readings stress USSR life, customs, and culture.

Prerequisite: two years of high school Russian or RUSS 1100 and/or permission of Instructor.

Intermediate Russian II

****RUSS 2100*** ***3 cr. 3 hr.*** ▲

The course is a continuation of RUSS 2000.

Dostoevsky and Tolstoy (in English)

RUSS 2400 ***3 cr. 3 hr.*** ▲

This course provides an in depth comparative study of the two giants of Russian 19th century literature. Contrasts in biography themes and styles are examined. The class is facilitated through lectures and readings in English, a standard length paper, a midterm, and final examination. I, L, C, IDIS

Russian Literature in English Translation

RUSS 2500 ***3 cr. 3 hr.*** ▲

The course is a seminar on a specific topic from Russian literature, such as Soviet Literature or the modern Russian novel. Lectures and readings in English emphasize significant works in Russian and Soviet literature. A midterm and final examination and a standard length paper are required class work. The class may be repeated for credit. I, L, C, IDIS

Russian Culture and Soviet Life (in English)

RUSS 2600 ***3 cr. 3 hr.*** ▲

The course provides an introduction to Russian life and culture as manifested in Russian geography, art, music, film, and literature. National characteristics of the Russian people and their influence on Soviet institutions are explored as well as everyday life in the Soviet Union. The course includes a significant audio-visual component.

I, L, C, IDIS

Independent Study in Russian

RUSS 4901 ***1 cr. 1 hr.*** ▲

Independent Study in Russian

RUSS 4903 ***3 cr. 3 hr.*** ▲

The Independent Study is open to students studying the language with the permission of the supervising instructor and the Department Chairman. Meeting times and credit are arranged with approval.

Topics in Russian

RUSS 5000 ***3 cr. 3 hr.*** ▲

Courses having a more narrow focus or those taught on an irregular basis may be offered under the "Topics" heading. New courses may also be taught on an experimental basis under this title.

Science Education

Key to Course Offerings

* Asterisk indicates that the course may be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

The following courses are regularly offered in Continuing Education. See the cross-listings for LAS designations.

General Botany

SCED 1000

(see BIOL 1400)

Nutrition

SCED 2000

(see BIOL 1650)

Human Sexuality

SCED 2001

The biological aspects of human sexuality. The purpose of this course is to relate information rather than to advise.

Winter Botany

SCED 3000

An out-of-doors study of the environment during the winter. Daily field trips to study both aquatic and terrestrial plants to discover how they adapt to the cold weather condition.

Common Rocks and Minerals

SCED 3270

(see GEOG 3270)

Introduction to Astronomy

SCED 4000

(see Phys 1030)

Sociology

Key to Course Offerings

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C: Multicultural

IDIS: Interdisciplinary courses

Multicultural and interdisciplinary courses also fulfill a cluster designation.

* Asterisk indicates that the course may be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

Introduction to Sociology

SOC 1100 ***3 cr. 3 hr.*** ▲ ●

The course encourages the student to analyze critically the social world, which he or she inhabits. Major theoretical orientations and major concepts of the discipline are reviewed. Social institutions such as Family, Education, and Medicine are examined, and different research techniques used by sociologists are introduced. This course is a prerequisite for all other sociology courses. B, C

Cultural Anthropology

SOC 2250 ***3 cr. 3 hr.*** ▲ ●

The course introduces students to varying cultures. Attention is given to hunting and gathering, pastoral, horticultural, agricultural, and industrial societies. Cultural change imposed by industrialization and technological revolution in both third world and modern societies is also analyzed and discussed. The intent of the course is to give students knowledge about the development and variability of cultures, living styles, and values, so that they are prepared to tackle elusive questions of the capabilities, limits, and future of human societies. B, C

Sociology of Aging

SOC 2300 ***3 cr. 3 hr.*** ▲

This course examines the socially defined aged, the aging process, and aging societies. It considers such topics as age roles, the status of the elderly across cultures and across history, and the downward mobility of the elderly in American society. B

Urban Sociology

SOC 2440 ***3 cr. 3 hr.*** ▲

This course provides a survey of the origins and development of cities. Emphasis is placed on the anatomy of modern American cities, world urbanization, urban planning, and social change. The focus is primarily on contemporary American urban life. B

Race and Ethnic Relations

SOC 2500 ***3 cr. 3 hr.*** ▲ ●

This course provides a comparative, historical, and interdisciplinary introduction to interactions between racial and ethnic populations in the U.S. and other societies. Students explore social attitudes and consequences of racial and ethnic difference, and examine how such differences affect the lives of American people. Consideration is given to the political, economic, legal, and socio-cultural experiences of various minority groups. B, I, C, IDIS

Peoples and Cultures of Africa

SOC 2510 ***3 cr. 3 hr.***

A survey of the peoples and cultures of Africa, this course examines the social and cultural systems of groups including the Ibo, Yoruba, Hausa-Fulani, Kpelle, Bantu Tiriki, Ganda, Jie, Rwana, Swazi, and Pastoral Somali. B, C

Drugs and Alcohol

SOC 2520 ***3 cr. 3 hr.*** ▲ ●

In this course, students explore sociological issues revolving around drug and alcohol use and abuse in the American society. Topics of discussion include: the socio-historical origins of drugs and alcohol use from a cross-cultural perspective; effects of formal organizations such as drug rehabilitation and alcoholic centers on drug users; and "Push factors" such as family, work, and economic pressures, as they relate to chemical dependency. Also investigated are society's drug problems in terms of legal and illegal drug use; medical versus recreational use of psychoactive drugs, alcoholic beverages, and tobacco; and definitions and classifications of psychoactive substances. B

Sociology of Developing Societies

SOC 2600 ***3 cr. 3 hr.*** ▲

This course provides a survey of the socioeconomic characteristics and features of the developing societies in the context of historical and contemporary experiences of those societies. One of the primary objectives of the course is to critically analyze how the socioeconomic characteristics of the less developed societies affect and are affected by their relationships with developed Western societies and their implications for development. The role of women in development and the inpact of development on women also are experienced.
I, B, C, IDIS

Sociology of Religion

SOC 2620 ***3 cr. 3 hr.*** ▲

The course emphasizes the structure and function of religious organizations, beliefs, and practices. Current issues in American religion are also explored. B

Sociology of the Family

SOC 2630 ***3 cr. 3 hr.*** ▲ ●

The course analyzes the structure and function of the family. Current trends along with practical solutions to problems of family living are discussed. B

Sociology of Organizations

****SOC 2650*** ***3 cr. 3 hr.*** ▲

The course introduces the study of work organizations as social systems. The impact of technological change and the effects of structural factors on organizations are considered. Approaches to organization diagnosis and development are discussed.

Social Problems

SOC 2700 ***3 cr. 3 hr.*** ▲ ●

The course examines underlying dynamics and consequences of contemporary social conditions believed to be both undesirable and changeable. Strategies for resolving social problems in the environmental, economic, family, medical, political, and legal spheres are analyzed and compared.

Medical Sociology

SOC 2720 ***3 cr. 3 hr.*** ▲

In this course, students explore the effects of stratification on health status and health care. Topics discussed in class include communication between physicians and patients of different socio-cultural backgrounds; formal organizational studies of health facilities such as hospitals, clinics, or doctors' offices; social factors and their relation to chronic illness; and the sociology of mental illness. Also investigated are the relationships between doctors and nurses, the organization and utilization of health services, the comparative examination of health systems either within a society or in a cross-cultural perspective, and the perception of illness as deviant or aberrant behavior. B

Criminology

SOC 2750 ***3 cr. 3 hr.*** ▲ ●

This course provides a survey of the field of criminology, including such topics as theories of crime; criminal statistics; homicide, rape, property crimes; white collar crimes and corporate deviance; and debates on punishment and rehabilitation. B

Juvenile Delinquency

****SOC 2760*** ***3 cr. 3 hr.*** ▲ ●

This course examines major sociological theories of delinquency including an analysis of empirical studies. Attention is also given to the juvenile judicial system and proposed treatment programs.

Sociology of Education

SOC 2800 ***3 cr. 3 hr.*** ▲

This course provides an introduction to the ways sociologists think about educational goals, processes, and outcomes. Students investigate a variety of historical, theoretical, and substantive issues, including: the development of the U.S. public education systems, the "distribution" of education in society; the "players" in the system; the influence of social factors on educational experiences; and educational reform. B

Social Stratification

SOC 3000 ***3 cr. 3 hr.*** ▲ ●

The course provides a critical examination of the dominant perspectives and dimensions of social stratification, using a cross-cultural, historical, and interdisciplinary framework. Trends in social mobility and status attainment in the U.S. and in other nations are compared. B, I, C, IDIS

Basic Skills of Social Research

SOC 3130 ***3 cr. 3 hr.*** ▲

The course emphasizes the aims and techniques of various research methods as applied to sociological study and practice. Topics covered in class include interviewing, observation, questionnaire construction, and quantitative analysis of data. The course meets LAS Computer Literacy for Sociology majors requirement.
Prerequisites: Cultural Anthropology and two additional intermediate level Sociology courses, or permission of Instructor.

Application of Social Research in the Work Setting

****SOC 3140*** ***3 cr. 3 hr.*** ▲

The course provides a deeper understanding of techniques of social research than SOC 2130. The application of such techniques to consumer behavior, business and government organizations, and social agencies, is examined.

Social Theory

SOC 3160 ***3 cr. 3 hr.*** ▲

The course studies social philosophy precursors, sociological scientific theorists from Comte to Parsons, and contemporary schools of thought in Sociology. The course meets LAS Writing requirement for Sociology majors.
Prerequisite: two intermediate level Sociology courses or permission of Instructor.

Law and Society

SOC 3500 ***3 cr. 3 hr.*** ▲

This course focuses on law as a practical resource. Students examine how the availability of law is distributed in society; what the law provides for those who use it; and how the law has been influenced by certain trends of use. Students study ways in which the law has been analyzed, and discover the nature of legal evolution and social change. B
Prerequisites: two intermediate level sociology courses or permission of Instructor.

Women in American Society

SOC 3770 ***3 cr. 3 hr.*** ▲

This seminar course examines the statuses, roles, expectations, and realities of women, particularly as experienced in the contemporary U.S. Patterns and differences among women's lives are explored through a variety of readings, class discussions, and writing projects. (Cross listed in Women's Studies IDIS 2340) B, C, IDIS
Prerequisite: two intermediate level sociology courses, or permission of Instructor.

Independent Study

SOC 4900 ***1-6 cr. 3-18 hr.*** ▲ ●

A program of study designed for in-depth learning in a specific topic for which no regular course is available. This Independent Study is only for Sociology majors and may be taken no more than two times with permission of faculty. Independent Study requires approval of the professor and of the Sociology Curriculum Committee.

Prerequisite: 3.0 cumulative average in the major.

Internship in Sociology

SOC 4960 ***6 cr. 15 hr.*** ▲

The Internship is arranged in consultation with faculty and carried out under the auspices of an approved agency or program at the local, state or federal level. This experience is designed to develop skills in sociological practice, principles, and/or research. Students are encouraged to discuss Internship plans with their advisors early in their college experience, as there are specific procedures and required courses. Liability insurance is required of all students enrolled in this course.

Prerequisite: junior or senior standing, 2.5 cumulative average in the major, program approval.

Internship in Sociology

SOC 4970 ***12 cr. 30 hr.*** ▲

See SOC 4960 for description and prerequisites.

Directed Study

SOC 4975 ***1-6 cr.*** ▲ ●

Topics in Sociology

SOC 5000 ▲ ●

Courses are offered on an occasional, experimental basis, for supplementation and enrichment of program. More than one such course may be taken with permission.

Spanish

Key to Course Offerings

Q: designates courses in the Quantitative Scientific Cluster

I: the Ideas and Events Cluster

B: the Human Behavior Cluster

L: the Literature, Language and Arts Cluster

C: Multicultural

IDIS: Interdisciplinary courses

Multicultural and interdisciplinary courses also fulfill a cluster designation.

* Asterisk indicates that the course may be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

Spanish for Beginners I

SPAN 1000 ***3 cr. 3 hr.*** ▲ ●

The correct pronunciation, reading ability, and fundamentals of grammar and syntax of the Spanish language are studied. Students are taught the four language skills of listening, speaking, reading, and writing. Cultural topics are integrated with these skills. Spanish gradually becomes the working classroom language. Students with a year or more of high school Spanish should register for Spanish 2000. L, C

Spanish for Beginners II

SPAN 1100 ***3 cr. 3 hr.*** ▲ ●

The course is a continuation of SPAN 1000 or is taken with permission of Instructor. L, C

Intermediate Spanish I

SPAN 2000 ***3 cr. 3 hr.*** ▲ ●

The course focuses on a discussion of advanced grammar points and readings dealing with Spanish life. Emphasis is on developing conversational fluency. L, C

Prerequisite: SPAN 1000 or permission of Instructor.

Intermediate Spanish II

SPAN 2100 ***3 cr. 3 hr.*** ▲ ●

The course is a continuation of SPAN 2000 or is taken by permission of Instructor. L, C

Hispanic Culture

SPAN 2600 ***3 cr. 3 hr.*** ▲

This course is designed to provide students with a knowledge and understanding of the Hispanic world through a study of the historical and cultural development of different countries. Emphasis is placed on contemporary problems and social customs of the Hispanic population in the USA. L, C.

Prerequisite: SPAN 2100 or permission of Instructor.

Hispanic Literature

SPAN 2700 ***3 cr. 3 hr.*** ▲

The course focuses on selected works reflecting the Hispanic heritage in contemporary Spanish and Latin American literature. L, C

Prerequisite: SPAN 2100 or permission of Instructor.

Spanish Conversation and Composition

SPAN 3500 ***3 cr. 3 hr.*** ▲ ●

This course is designed to teach skills that increase the student's overall ability to read, speak, and write the language. Students are expected to write compositions on topics developed in class. L, C

Prerequisite: SPAN 2100 or permission of Instructor.

Practical Spanish for the Public Services Professional I

SPAN 4000 ***3 cr. 3 hr.*** ▲ ●

The course teaches practical Spanish to enable people in public services, human services, nursing, medical technology, special education to communicate with their clients. Special emphasis is placed on the cultural and psychological characteristics of Spanish speaking peoples. L, C

Practical Spanish for the Public Services Professional II

SPAN 4100 ***3 cr. 3 hr.*** ▲

The course is a continuation of SPAN 4000 or is taken by permission of Instructor. L, C

Independent Study in Spanish
SPAN 4901 ***1 cr. 1 hr.*** ▲ ●

Independent Study in Spanish
SPAN 4903 ***3 cr. 3 hr.*** ▲ ●

The Independent Study is open to students in the language with the permission of the supervising Instructor and the Department Chairman. Meeting times and credit are arranged upon approval.

Independent Study in Spanish
SPAN 4906 ***6 cr. 6 hr.*** ▲ ●

Directed Study
SPAN 4975 ***1-6 cr.*** ▲ ●

Topics in Spanish
SPAN 5000 ***3 cr. 3 hr.*** ▲ ●

Courses having a more narrow focus or those taught on an irregular basis may be offered under the "Topics" heading. New courses may also be taught on an experimental basis under this title.

Special Education

Key to Course Offerings

* Asterisk indicates that the course may be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

Introduction to Individuals with Special Needs
SPED 2150 ***3 cr. 3 hr.*** ▲

The course focuses on the characteristics, behavioral, social, and learning needs of children and adults with special needs. Emphasis is placed on the total special education delivery system; controversies and issues in the field; relevant state and federal legislation; and court cases. Field experience required.

Program Development for Students with Intensive Special Needs
SPED 2200 ***3 cr. 3 hr.*** ▲

This course examines effective instructional strategies for teaching students with intensive special needs and includes an overview of specific diagnoses and their implications for teaching. Particular attention is given to program development and implementation within inclusive settings. Taken in conjunction with Student Teaching.

Student with Physical and Health Care Needs
SPED 2510 ***3 cr. 3 hr.*** ▲

Students examine various physical and health conditions common in children with special needs. Health care plans are developed along with effective implementation strategies. Collaborative models for working with health care professionals and related services providers will be examined. Field experience required.

Science and Social Studies: Teaching and Adapting Instruction
SPED 2521 ***3 cr. 3 hr.*** ▲

This course addresses the research based approaches to teaching children with special needs. The major focus is the teaching of science and social studies. Included are basic concepts in planning for instruction in all settings with an emphasis on inclusive education. Students learn how to complete curriculum-based assessments, develop behavioral objectives, create lesson plans, design materials, and teach children with diverse learning needs. This course also includes procedures for developing an integrated curriculum unit. A related field-based experience is required.

Language Arts: Teaching and Adapting Instruction
SPED 2522 ***3 cr. 3 hr.*** ▲

This course builds on previously taught research-based approaches to teaching children with special needs. The major curriculum focus is on language arts. Students further develop skills in assessments, planning and designing materials, and teaching children with diverse learning needs. Students are introduced to procedures for developing IEP's. A related field-based experience is required.
Prerequisites: SPED 2150, 2521.

Language Development and Speech
SPED 3401 ***3 cr. 3 hr.*** ▲

The course addresses the normal development of speech and language, and disorders associated with each of these areas of communication. Students demonstrate a knowledge of phonological problems and language disorders as they effect academic learning. In the area of language/learning disorders students demonstrate an understanding of delayed language and language disabilities as they relate to reading, mathematics, and written language. Students analyze second language acquisition and educational practices related to linguistic minority students. A related field experience is required.
Prerequisite: SPED 2521, SPED 2150.

Behavior Management
SPED 3500 ***3 cr. 3 hr.*** ▲
This course prepares students to carry out a variety of behavior change strategies in educational settings. Emphasis is on the development of a positive, problem-solving approach to supporting the development of constructive learning and social behaviors of children. Students also develop an awareness of the effect of teacher behavior on the behavior of children. Taken in conjunction with Practicum.

Integrated Professional Program Curriculum
SPED 3655 ***6 cr.*** ▲
This course is taken as part of the twelve credit block of the Integrated Professional Program: Special Educator and Teacher of Students with Intensive Special Needs. The sessions include content in the areas of: Reading/Learning Problems and Math Learning Problems.
Prerequisites: SPED 2150, 2200, 2521, 3401.

Integrated Professional Program, Pre-Practicum/Practicum: Elementary
SPED 3665 ***3 cr.*** ▲
Students spend 1/2 semester, 1/2 days in an elementary school in classrooms where students with special needs are integrated or included. The college student assists in the design and instruction of lessons, adapting when necessary, and does direct teaching.
Prerequisites: SPED 2150, 2200, 2521, 3401.

Integrated Professional Program, Pre-Practicum/Practicum: Special Educator (PreK-9)
SPED 3675 ***3 cr.*** ▲
Students spend 1/2 semester, 1/2 days in the role of a special educator servicing children with special needs (PreK-9). These children may be serviced in resource rooms, in integrated programs, or in inclusive classrooms. In this role, students are responsible for assisting in assessing children's performance, direct teaching, and evaluation.
Prerequisites: SPED 2150, 2521, 3401.

Integrated Professional Program, Pre-Practicum/Practicum: Special Educator (5-12)
SPED 3676 ***3 cr.*** ▲
Students assist in the role of the special educator in middle or secondary schools. Students work with individuals who have special needs and who may be serviced in resource rooms, learning centers, or regular classrooms. In this role, students are responsible for assisting in assessing performance, providing direct instruction, and evaluating learning outcomes. Students collaborate with the regular classroom teachers about student performance, expectations, and curriculum modifications.
Prerequisites: SPED 2150, 2521, 3401, 3500.

Integrated Professional Program, Pre-Practicum/Practicum: Intensive
SPED 3765 ***3 cr.*** ▲
Students assume the role of a teacher of students with intensive special needs. Students work with individuals on functional academics and on the development of appropriate social skills. Participants assist in the development and implementation of instructional programs.
Prerequisites: SPED 2150, 2200, 2521, 3401.

Secondary Programs for Adolescents (14-22) with Special Needs
****SPED 3800*** ***3 cr. 3 hr.*** ▲
Students in secondary education certification programs are provided with the legal perspective of services to individuals with special needs. Learning problems and needs of various disabilities are addressed. Strategies for modifying instruction are a major focus.

Practicum: Intensive Special Educator
SPED 3840 ***4 cr.***
Students assume the role of the teacher of students with intensive special needs 4 dull days per week, guided by the cooperating teacher and college supervisor. Taken in conjunction with SPED 3500 and SPED 2200 (one full day per week).

Practicum: Elementary Educator
SPED 3860 ***4 cr.***
Students assume the role of the teacher of the elementary teacher 4 full days a week for the semester, guided by the cooperating teacher and college supervisor. Taken in conjunction with SPED 3500 and SPED 2200 (Intensive) or SPED 4001 (Moderate) (one full day per week).

Practicum: Special Educator Prek-9
SPED 3870 ***4 cr.***
Students assume the role of the special educator 4 full days a week for 1/2 of the semester, guided by the cooperating teacher and college supervisor. Taken in conjunction with SPED 3500 and SPED 4001 (one full day per week).

Practicum: Special Educator 5-12
SPED 3875 ***4 cr.***
Students assume the role of the special educator 4 full days a week for the semester, guided by the cooperating teacher and college supervisor. Taken in conjunction with SPED 3500 and SPED 4001 (one full day per week).

Assessment for Children and Youth with Special Needs
SPED 4001 ***3 cr. 3 hr.*** ▲
The course introduces students to the assessment process, describes a comprehensive evaluation, and discusses mandatory assessment regulations. The topics of descriptive statistics, reliability and validity, and norm/criterion referenced assessments are addressed. Various types of assessment are reviewed and discussed. The focus is on interpreting test results and using assessment data to write Individual Educational Plan.

Independent Study
SPED 4900 ***3 cr. 3 hr.*** ▲
The Independent Study facilitates the review, development, and synthesis of a problem in special education. The Independent Study is open to juniors and seniors with permission of the Instructor.

Directed Study
SPED 4975 ***1-6 cr.***

Topics in Special Education
SPED 5000 ***3 cr. 3 hr.*** ▲
Provides students with an opportunity to identify, review the literature, and discuss some of the critical issues affecting the field of special education. The topic is selected by the Instructor.

Speech

Key to Course Offerings

Q: designates courses in the Quantitative Scientific Cluster

I: the Ideas and Events Cluster

B: the Human Behavior Cluster

L: the Literature, Language and Arts Cluster

C: Multicultural

IDIS: Interdisciplinary courses

Multicultural and interdisciplinary courses also fulfill a cluster designation.

* Asterisk indicates that the course may be offered less than once every two years.

▲ Undergraduate Day School

● Undergraduate Evening School

Speech Improvement

***SPCH 0100** **1 cr. 1 hr.** ▲

Students are assigned to this remedial course after being evaluated as needing speech improvement. Individual and group therapy is used.

Introduction to Speech Communication

***SPCH 1000** **3 cr. 3 hr.** ▲ ●

The class focuses on theory and practice of interpersonal and public communication, including communication theory, self-concept, perception, language, listening, non-verbal communication, and public speaking. L

Argumentation and Debate

***SPCH 1100** **3 cr. 3 hr.** ▲

Students participate in projects that emphasize analysis, research, evidence, strategies, briefing, refutation, and the delivery of debates on representative questions. L

Business and Career Communication

***SPCH 1200** **3 cr. 3 hr.** ▲

Theory and methods of communication are applied to business and career problems. Emphasis is placed on skills especially important to students planning to work for or with an organization. Interviewing, group conferences, and staff presentations are emphasized.

Effective Speaking for the Electronic Media

***SPCH 1300** **3 cr. 3 hr.** ▲

The class focuses on a variety of speaking experiences encountered by those who plan to use electronic media in their occupation. The class is particularly suited to students who anticipate speaking roles in industry-made productions as well as those who aspire to careers as professional broadcasters. L

Discussion and Conference Techniques

***SPCH 1400** **3 cr. 3 hr.** ▲ ●

The course explores the fundamentals of group discussion in private and public settings. Emphasis is on group structure, leadership, and interpersonal relationships, including extensive practice in varied group situations.

Public Speaking

***SPCH 1600** **3 cr. 3 hr.** ▲

The course fosters the development of skills and strategies employed in the preparation and presentation of the public address. Students make critical assessments of rhetorical strategies used by public figures. L

Intercollegiate Debate and Forensics

***SPCH 2100** **1 cr. 1 hr.** ▲

The course provides opportunities for study and participation in debate and forensic speaking activities.

Voice and Articulation

***SPCH 2400** **3 cr. 3 hr.** ▲

The course concentrates on the elements of vocal production and presentation with special emphasis on the study and application of phonetic theory. L

Persuasion

***SPCH 2600** **3 cr. 3 hr.** ▲

The course studies the causes of listener belief and action with special emphasis on the development of strategies to influence listener behavior.

Rhetorical Criticism

***SPCH 2800** **3 cr. 3 hr.** ▲

The class explores approaches to the rhetorical criticism of significant speeches and speech movements, past and present.

Technical Theater

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▲ Undergraduate Day School

● Undergraduate Evening School

Theatrical Design Skills

***TETA 2100** **3 cr. 4 hr.** ▲

A lecture/laboratory course presenting basic problem solving skills in scenic and costume craft covering terminology and processes of stage production including integration of design elements/materials, basic drafting, stage carpentry, rigging, equipment use, and shop safety.
Prerequisites: ITEC 1200, 1300, 1400.

Fundamentals of Stage Lighting Design

***TETA 2300** **3 cr. 4 hr.** ▲

A lecture/laboratory course dealing with the application of the elements of design relating to lighting for the theater and dance. Mechanics of basic electricity, color theory, instrumentation , distribution, and control.
Prerequisite: ITEC 1000.

Scene Design

***TETA 2400** **3 cr. 4 hr.** ▲

A lecture/laboratory study of the historical and contemporary contribution of space and environment atmospherics to the creation of the world of the play/dance and the theater experience as a whole. Rendering, graphic media, specification writing, and scenic models are addressed.
Prerequisites: TETA 2100, ITEC 1000.

Costume Design

***TETA 2500** **3 cr. 4 hr.** ▲

The history of fashion silhouette is explored along with the design elements used in developing a character's costume. Students will apply historical perspective and utilize the design elements of line, texture, color, and gesture in designing costumes.
Prerequisites: TETA 2100.

Advanced Stage Lighting Design

TETA 3300 ***3 cr. 4 hr.*** ▲

A lecture/laboratory study of the problems of stage lighting for the Proscenium and Non-Proscenium stages. Students are expected to develop and apply concept and historical lighting techniques in various theater and dance genre (musical-comedy, cabaret, modern, and jazz dance). Computer applied lighting will be used in a production environment.

Prerequisites: TETA 2300, ITEC 2410.

Advanced Scene Design

TETA 3400 ***3 cr. 4 hr.*** ▲

An advanced course emphasizing approaches and techniques relating to the design, development, and implementation of scenic concepts. Students will utilize approaches to research design and develop scenic concepts. Concepts will be developed, rendered, constructed, and rigged to production standards.

Prerequisites: TETA 2400, ITEC 2410.

Advanced Costume Design

TETA 3500 ***3 cr. 4 hr.*** ▲

An advanced lecture/laboratory study of the integration of design elements into unified production styles. Students will study historical clothing. Construction techniques and rendering will be applied using CAD. Line, texture, color, gesture and movement will be integrated into a unified production style and applied in a production environment.

Prerequisites: TETA 2500, ITEC 2410.

Stage Make-up

TETA 3600 ***3 cr. 4 hr.*** ▲

A lecture/laboratory course investigating the principles, techniques, and materials of character stage make-up and practical application. Students will apply, in a production setting, principles, techniques, and materials of character stage make-up. They will identify historical justification for period make-up and apply techniques for live animation, clowning, and dramatic character.

Prerequisites: TETA 2400.

Stage Management

TETA 4100 ***3 cr. 4 hr.*** ▲

A lecture/laboratory study of the professional union approach to stage management and personnel mediation in stage production. Students will apply knowledge and technique related to contract and union policy in various repertory scenarios. The aspects of prompt books, blocking documentation, call-sheets, rehearsal set-up and running and calling the show will be implemented.

Prerequisites: senior status.

Theater Internship

TETA 4940

Theater

Key to Course Offerings

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▲ Undergraduate Day School

● Undergraduate Evening School

Introduction to Theater

THEA 2000 ***3 cr. 3 hr.*** ▲ ●

This introductory course surveys theater with emphasis on its history, focuses, practices, and major practitioners, including directors, actors, and scenic designers. The focus is on historical and social contexts. L, C

Children's Theater

****THEA 2100*** ***3 cr. 3 hr.*** ▲

This introductory course in theater for children explores its principles and practices, covering aspects of play production for juvenile audiences. Emphasis is on script selection and evaluation, directing, acting, and staging techniques.

Stage Movement

****THEA 2500*** ***3 cr. 3 hr.*** ▲

This workshop-oriented course utilizes the basic techniques of theatrical mime and movement with emphasis on developing each student's potential for effective physicalization on stage.

Acting I

THEA 2700 ***3 cr. 3 hr.*** ▲ ●

In this course the acting fundamentals of stage speech and movement, creative mime and improvisation are explored. Plays are read and analyzed. Systematic technique building and scene study are heavily emphasized. L

Acting II
THEA 2800 ***3 cr. 3 hr.*** ▲
This will be an advanced course in examining the art f the actor building on the preliminary skills learned in Acting l. Students will perform scenes from the contemporary and classical repertoire. Traditional and contemporary methods of character development will be studied and attempted. Techniques of acting Shakespeare will be learned. Audition technique will be introduced and developed.

Stagecraft and Theater Production
****THEA 3000*** ***3 cr. 3 hr.*** ▲
In a laboratory situation, the student takes one selected play from initial sketches through to the finished model and plans for production, including design, set building, costuming, lighting, and management.

Directing the Play
THEA 4000 ***3 cr. 3 hr.*** ▲
This lecture/seminar/workshop covers the basic elements of style, blocking, organization, and focus for directing.

Independent Study
THEA 4903 ***3 cr. 3 hr.*** ▲ ●
The Independent Study is for exceptional students excelling in scholarship and is taken upon approval of department head and advising instructor. Course of study, meetings, and credit are arranged upon approval.

Internship
THEA 4940 ***3 cr.*** ▲

Directed Study
THEA 4975 ***1-6 cr.*** ▲

Topics
THEA 5000 ***3 cr. 3 hr.*** ▲
Courses having a narrow focus or those taught on an irregular basis may be offered under the "Topics" heading. New courses may also be taught on an experimental basis under the title.

Women's Studies

Key to Course Offerings
Q: designates courses in the Quantitative Scientific Cluster

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L: the Literature, Language and Arts Cluster

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▲ Undergraduate Day School

● Undergraduate Evening School

Introduction to Women's Studies
IDIS 1000 ***3 cr. 3 hr.*** ▲ ●
The course presents a cross-cultural, historical, and interdisciplinary introduction to topics and themes in women's experiences, including roles in the family, the work force, and public life. L, I, C, IDIS

Women and Literature
3 cr. 3 hr. ▲
(See ENGL 2900) L

Women in Latin America
IDIS 1100 ***3 cr. 3 hr.*** ▲
The course provides a multicultural and interdisciplinary examination of the social, political, and economic situation of contemporary Latin American women using autobiographies, literature, and films.

Women in Science and Technology
IDIS 2000 ***3 cr. 4 hr.*** ▲
We will study the contributions to the advancement of science and technology made by a selected group of women. For each of these women, we will examine her discipline, her contribution to the discipline, and site her in an appropriate historical and cultural setting. I, C, IDIS

Women in American Society
IDIS 2340 ***3 cr. 3 hr.*** ▲ ●
The course focuses on the multicultural and interdisciplinary examination of the statuses, roles, expectations, and realities of women in society with emphasis on the U.S. B, C, IDIS

Contemporary Issues in Women's Health
IDIS 2340 ***3 cr. 3 hr.*** ▲ ●
The course provides a multicultural and interdisciplinary examination of women's health issues, including violence against women, sexual freedom, abortion, menopause, work place risks, and problems of poor, elderly women. l, B, C, IDIS

History of U.S. Women to 1870
3 cr. 3 hr. ▲
(see HIST 2450) I, C

History of U.S Women from 1870 to the Present
3 cr. 3 hr. ▲
(see HIST 2500) I, C

History of Women in Europe
3 cr. 3 hr. ▲
(see HIST 3450) I

Psychology of Women
3 cr. 3 hr. ▲
(see PSY 2250)

Independent Study in Women's Studies
IDIS 4903 ***3 cr. 3 hr.***

Women, Art, and Society
3 hr. 3 cr. ▲ ●
(see ART 1830) L, C

Women, Music, and Society
3 hr. 3 cr. ▲ ●
(see MUSC 3900) L

Topics in Women's Studies
IDIS 5000 ***3 cr. 3 hr.*** ▲ ●
This course serves as a vehicle for curriculum experimentation and enrichment. Topics are selected by the instructor, usually from work in progress.

Internship
IDIS ***3 cr.*** ▲

Worcester School for Professional Crafts

Clay Formulation
WSPC 1010 ***3 cr. 6 hr*** ▲
Students examine the concepts in formulating clay bodies for specific use with emphasis on shrinkage, density, porosity, and thermal expansion/contraction. Students explore the complex relationship of various clays and chemicals.

Handbuilding in Clay
WSPC 1020 ***3 cr. 6 hr.*** ▲
This class provides an introduction to clay materials and basic forming techniques, including pinch, coil, and slab processes. Students fire their own works to better understand the changes that pit firing and raku firing can cause.

Design for Clay
WSPC 1030 ***3 cr. 6 hr.*** ▲
Designs found in contemporary and historical clay objects are examined, and students introduce these concepts into their work. Emphasis is given to the relationship between form and surface decoration.

Wheel Throwing
WSPC 2010 ***3 cr. 6 hr.*** ▲
The basics of wheel throwing and the development of more complex thrown clay forms are practiced. Students, using stoneware clay, begin with cylindrical forms, then proceed to spherical, and more complex forms (handles, lids, pitchers, and teapots).

Glaze Formulation I
WSPC 2020 ***3 cr. 6 hr.*** ▲
Glaze materials used by the potter, including their sources and uses are studied. Students formulate, mix, and test base glazes; line blends, (color testing); and correct glaze defects. Health hazards and safety precautions are discussed and observed when using raw materials.

Electric Kilns: Firing and Maintenance
WSPC 2030 ***3 cr. 6 hr.*** ▲
Students examine methods of electric kiln building, firing, and maintenance. Firing schedules are employed as students gain experience in loading the studio kilns on a regular basis.

Production Techniques in Clay
WSPC 3010 ***3 cr. 6 hr.*** ▲
Students focus on methods for producing multiples of a particular design. Students learn the drape mold technique and use of an extruder for efficiency. The interaction of function and design is stressed.

Glaze Formulation II
WSPC 3020 ***3 cr. 6 hr.*** ▲
Students explore glaze possibilities while developing a personal aesthetic. Special glaze effect and colorants are stressed. Students may pursue specific firing methods and temperatures ranges of their choice.

Design for Production Methods
WSPC 3030 ***3 cr. 6 hr.*** ▲
Students learn how to design a project with a specific technique in mind. Issues of time, materials, practicality, marketing, and their effects on the design process are explored.

Advanced Clay
WSPC 4010 ***3 cr. 6 hr.*** ▲
In this course students choose to study specific areas they find appealing and challenging. Students submit written goals and objectives for approval by the Instructor. Possible techniques for study include high fire reduction, oxidation firing (any temperature), or raku firing.

Independent Directions in Design
WSPC 4020 ***3 cr. 6 hr.*** ▲
In this course students have a greater opportunity to work on personal expression and creativity. Work may be sculptural or functional. Students sketch out ideas for clay and evaluate works in progress with the instructor and other students.

Kiln Design and Construction
WSPC 4030 ***3 cr. 6 hr.*** ▲
In this course methods of kiln building, fuels, and firing options are presented. Topics, such as burners, insulation, kiln proportions, and BTU input figures, are discussed. Students build or repair kilns as opportunities arise.

Weaving I
WSPC 1110 ***3 cr. 6 hr.*** ▲
The course serves as an introduction, through demonstrations and lectures on weaving materials, looms, and tools, that provides students with basic weaving elements. Course work includes calculating threads, warping, dressing the loom, weaving, and finishing methods.

Surface Design I
WSPC 1120 ***3 cr. 6 hr.*** ▲
Students explore surface design techniques such as direct painting and screen printing. Students develop their expressive skills while learning about color and pattern.

Fundamentals of Dye Technology
WSPC 1130 ***3 cr. 6 hr.*** ▲
Students investigate dyestuffs and chemicals, textile materials, and color methods. Through the demonstration of synthetic dye methods, students learn basic dye technology and develop their ability to choose and control color to achieve freedom and accuracy in their textile designs. Projects incorporate acid dye, reactive dye, and direct dye.

Weaving II
WSPC 2110 ***3 cr. 6 hr.*** ▲
Technical and conceptual skills are expanded while examining the history and expressive potentials of weaving. Emphasis is placed on tapestry techniques and drafting. Ancient and contemporary weaving methods are studied through slide lectures and visits to museums and galleries.

Textile Design
WSPC 2120 ***3 cr. 6 hr.*** ▲
Students establish a foundation for their design sense through textile design theory, including color, pattern, rhythm, and repetition. Through demonstrations, students learn to use design materials, develop their own imagery, and transfer them to paper.

Surface Design II
WSPC 2130 ***3 cr. 6 hr.*** ▲
Surface design techniques are explored through a series of projects that teach students the basic construction of fabrics and the ways fabric can be manipulated.

Hand Constructed Textiles
WSPC 3110 ***3 cr. 6 hr.*** ▲
Students explore new and innovative ways to use fabric and combinations of fibers and other materials. Through demonstrations in feltmaking and papermaking, students learn to develop their own designs and images, both in flat and sculptural objects.

Advanced Techniques
WSPC 3120 ***3 cr. 6 hr.*** ▲
Students explore their ehosen subjeet through reading and studying museum items, and they develop profieieney through sample making and eompletion of a final project. Double eloth piek-up and warp painting, printing and ikat are explored through a series of samples. The final ehoiee is a semester study (final piece) developed by the student. Students pursue their personal interest with the help of the instruetor.

Clothing Design I
WSPC 3130 ***3 cr. 6 hr.*** ▲
For their projeets, students ehoose from either produetion items or one-of-a-kind elothing. As a final stage of fabrie printing instruction, students integrate their skills with materials, color, pattern design, and elothing strueture design.

Conceptual Approach to Fiber Art
WSPC 4110 ***3 cr. 6 hr.*** ▲
This eourse is about the aesthetie aspeets of fabrie. Students are introdueed to design elements such as seale, personal iconography, and language.

Interior Objects Design Project
WSPC 4120 ***3 cr. 6 hr.*** ▲
The subjeet for a major large seale work, either a production item, such as drapery or upholstery, or a one-of-a-kind item dealing with the window, floor, or furniture, is ehosen. As the final stage of fabrie design, students have the opportunity to blend acquired design skills with their own ereativity to produee and present professional work.

Clothing Design Project II
WSPC 4130 ***3 cr. 6 hr.*** ▲
Students progress to the woven strueture of fabric and how it relates to clothing. For their projeets, they ehoose either a produetion item or one-of-a-kind clothing.

Design for Metals
WSPC 1210 ***3 cr. 6 hr.*** ▲
Introductory design theory is applied to creation of jewelry and metalwork. Drawing, rendering, and modelmaking an integral part of this eourse.

Surface Enrichment
WSPC 1220 ***3 cr. 6 hr.*** ▲
Students learn textural and pietorial methods of embellishing metal surfaees in survey of aneient and eontemporary teehniques.

Fabrication I
WSPC 1230 ***3 cr. 6 hr.*** ▲
The hasic techniques of metalsmithing are considered. Through demonstration and student experimentation, eaeh student learn the ways metal is shaped, joined, and finished.

Introduction to Casting
WSPC 2210 ***3 cr. 6 hr.*** ▲
Students are introduced to the casting proeess. Instruetion ineludes direet earving, sandeasting, lost-wax easting, and the making of multiples through molds.

Stone Setting
WSPC 2220 ***3 cr. 6 hr.*** ▲
Through demonstration, illustrations, slide and video presentation as well as the produetion of samples

Fabrication II
WSPC 2230 ***3 cr. 6 hr.*** ▲
The teehniques learned in Fabrieation I and Surfaee Enriehment are further developed. Students explore more complex teehniques and develop their teehnieal skills.

Design for Casting
WSPC 3210 ***3 cr. 6 hr.*** ▲
This advanced eourse stresses the design of forms appropriate to the easting proeess. Exploring the shapes and surfaees of east objects helps students extend their design ideas.

Toolmaking and Blacksmithing
WSPC 3220 ***3 cr. 6 hr.*** ▲
Students examine the teehnology of steel and its basie working methods. Eaeh student leans to forge, heat treat, and finish steel while ereating tools and objeets of their own design.

Mechanisms for Jewelers
WSPC 3230 ***3 cr. 6 hr.*** ▲
Students learn to eonstruet eatehes, elasps, bails, elosures, and pin baeks that are integrated into the total design and funetion of their pieces.

Personal Directions in Design
WSPC 4210 ***3 cr. 6 hr.*** ▲
This senior level eourse provides an opportunity for eaeh student to pursue personal design direetions. Demonstrations and elass instruetion are geared to the student's needs.

Advanced Techniques
WSPC 4220 ***3 cr. 6 hr.*** ▲
Students, under the instructor's guidance, explore advanced techniques in an atmosphere open to personal ehoice and serious study.

Production Methods
WSPC 4230 ***3 cr. 6 hr.*** ▲
This eourse focuses on the production hy eaeh students of a line of jewelry items or metal objeets. Students eoneentrate on designs and methods best suited to a produetion line or limited edition.

Design in Wood
WSPC 1310 ***3 cr. 6 hr.*** ▲
Students are introduced to proeesses for designing in wood, starting with small objeets and working up to furniture. Drawing and modelmaking are used to develop ideas. Slides, talks, and diseussions follow the assignments.

Characteristics of Wood Carving
WSPC 1320 ***3 cr. 6 hr.*** ▲
Students explore the charaeteristies of various woods and use of hand earving tools to eomplete moderate size projeets. Students diseuss the properties of wood as they apply to ereating wooden forms.

Hand Tool Joinery Techniques
WSPC 1330 ***3 cr. 6 hr.*** ▲
Basie skills with hand tools and various wood construetion teehniques are developed through demonstrations and experimentation.

Furniture Design
WSPC 2310 ***3 cr. 6 hr.*** ▲
Students design a series of small pieces of furniture. Course work ineludes individual researeh into historieal furniture periods, slide presentations, and projeet eritiques.

Construction Techniques
WSPC 2320 ***3 cr. 6 hr.*** ▲
Through demonstrations, students learn the teehniques of maehine eut joinery. Speeial projects are assigned employing different joinery methods.

Care and Use of Machinery
WSPC 2330 ***3 cr. 6 hr.*** ▲
The safe use and maintenance of woodworking power maehinery is taught. Proper operation and safety procedures are demonstrated and diseussed.

Mechanical Drawing for Furniture

WSPC 3310 ***3 cr. 6 hr.*** ▲

Mechanical drawing techniques that apply to the furniture industry are presented. Students develop drawings of actual projects to built during this semester and the fourth semester.

Human Factor in Furniture Design

WSPC 3310 ***3 cr. 6 hr.*** ▲

The relationship between the human form and furniture is explored. Research in ergonomics culminates in the design and production of a chair.

Advanced Construction Techniques

WSPC 3330 ***3 cr. 6 hr.*** ▲

Students continue to explore furniture construction, using advanced techniques and completing complex, specialized projects.

Personal Directions in Design

WSPC 4310 ***3 cr. 6 hr.*** ▲

Woodworkers pursue individual directions through a series of advance projects. Critiques are conducted continuously throughout each student's project.

Woodworking Business

WSPC 4320 ***3 cr. 6 hr.*** ▲

Students discuss aspects of setting up a wood business as well as what to make, how to make it, and how to market it.

Drawing for Crafts

WSPC 1410 ***3 cr. 6 hr.*** ▲

Students examine the various aspects of drawing skills used to convey the illusion of three-dimensional design. Class work emphasizes the importance of proficiency for the craft designer and working craftsperson. Through technical exercises, each student learns to draw objects with confidence.

Design for Crafts

WSPC 2410 ***3 cr. 6 hr.*** ▲

Through various lectures and projects, students discover the integral relationship of design elements to their own studio work. Among the elements explored are line, color, form, rhythm, texture, scale, and the use of positive and negative space. Creative thinking, understanding visual perception, and class discussions are encouraged. Students examine their sources of inspiration and influences as they gain an understanding of their own work.

Slide Photography and Business Practice

WSPC 3410 ***3 cr. 6 hr.*** ▲

This course consists of two separate components. In the first, students develop skills in producing color slides of their artwork critical for portfolios and for exhibition purposes. In the second component, students receive practical advice on starting and managing a craft business. Topics covered include pricing, advertising, and marketing.

Craft History Seminar

WSPC 4410 ***3 cr. 6 hr.*** ▲

Students survey the history of fine and decorative arts to better understand the role of today's crafts. Past styles, movements, and patterns in technical developments are the basis for discussions about the concerns faced by today's craftspeople.

Graduate Division

Graduate Education at Fitchburg State College is an exciting and challenging adventure. It offers diverse perspectives for part time and full time advanced study in a variety of professional and academic fields.

The Office of Graduate Studies is committed to engaging excellence as it promotes learning in every aspect of its educational mission—to consistently offer its students the affordable high quality evening degree programs, courses, and other life-long learning opportunities they desire, seek, and need. The commitment to quality is evidenced in the dedicated cadre of faculty who are actively involved in their professional and academic fields—who bring their focussed expertise and experience to their classrooms, laboratories, and studios.

Fitchburg State College's Office of Graduate Studies is proud of the contributions its faculty, graduates, and other former students have made, and will continue to make, to their chosen fields of endeavor.

Graduate Faculty

Fitchburg State College faculty holding terminal degrees are eligible for graduate faculty status. Faculty with advanced degrees and special recognition in their field are qualified for associate graduate faculty status. Experts from other universities or the community-at-large may serve, by invitation, as visiting lecturers.

Administration

The Office of Graduate Studies is administered by the Dean of Graduate Studies.

The Graduate Council consists of five members of the graduate faculty (selected by the Fitchburg State College Faculty Association), three administrators (appointed by the College's President) and a matriculated graduate student. The Graduate Council makes reports and recommendations on the following matters:

The changing of course requirements within an existing graduate curricula; the addition of new courses within such curricula; and the criteria to be applied in designating as such members of the graduate faculty. The Council shall also hear appeals from graduate students to the College's graduate program.

Reports and recommendations made by the Graduate Council are transmitted to the President of the college through the Academic Vice President; copies are transmitted to the college Faculty Association's Chapter President and the chairperson of each department that sponsors a graduate program. The Graduate Council shall send copies of minutes and its agenda to the All College Committee.

Graduate Program Chair

Each graduate program has a Graduate Program Chair who, among other things is responsible for:

- Quality control of the graduate curriculum.
- Evaluation of course content and degree program relevancy.
- Developing and maintaining a 2-year plan of course offerings.
- Developing course schedule for yearly offerings (summer, fall, spring).
- Working with the Graduate Council and the Dean of Graduate Studies in administration and policy matters.
- Evaluating graduate students each semester and reviewing student folders.
- Recommending and approving courses to be taken by matriculated students each semester.
- Advising and assisting in appropriate policy actions needed by graduate students (e.g., acceptance of transfer credits, graduation, review, etc.).
- Reviewing applications for admission.

Admissions

Application Requirements

To apply for study in the Graduate Program applicants are required to submit:

- A completed application for admission (available from the Admissions Office or the Graduate Office)
- An official transcript of a Bachelor's degree from an accredited College or University with a 2.8 or better GPA on a 4.0 scale: All transcripts must be sent directly from the institution to the Admissions Office. No hand-carried transcripts will be accepted. Transcripts must verify that a baccalaureate program, including comprehensive examinations, was completed.
- An official report of the Miller Analogies Test Score, or the Graduate Record Examination (GRE), or GMAT score for Master of Business Administration Degree candidates. Test scores over five years old will not be accepted.
- Three letters of recommendation from individuals under whom the applicant has studied and/or under whose immediate supervision he/she has worked in a professional capacity; and/or from others who are in a position to offer a pertinent appraisal of academic and interpersonal skills, ability, and potential. Applicants are asked to use the Letter of Recommendation forms provided with the Graduate Application. All letters of recommendation should be mailed directly to the Admissions Office by the individual making the referral. Hand-carried letters will not be accepted.
- $10 application fee
- Professional resume
- Applicants to NCATE approved graduate programs who do not have provisional with advanced standing certification must submit their score of the literacy portion of the Massachusetts Educator Certification Test as part of their application.
- Additional program-specific degree requirements are listed with program descriptions in this publication

The application, fee, and other requested materials should be sent to:

Office of Admissions
Fitchburg State College
160 Pearl Street
Fitchburg, MA 01420-2697

Additional Application Requirements for International Students

Applicants who do not possess a permanent visa with an Alien Registration number must submit the following paperwork in order to be considered for admission to Fitchburg State College:

1 Applicants must take the Test of English as a Foreign Language (TOEFL) if their native language is not English. A Student must receive a minimum score of 550. To request an application write to: TOEFL, Box 899, Princeton, NJ, 08540 U.S.A. The college may also request additional information regarding the applicant's ability to converse in English.

2 An official bank statement must he provided from a bank showing that sufficient funds will be available for one academic year. The total expense for graduate study for fall and spring semester is $9780.00 (this includes tuition and fees, living expenses and miscellaneous expenses).

- The bank statement must show the amount availahle in U.S. dollars.
- The statement must show when the account was opened.
- The statement must show the bank's official seal and must be notarized and sent directly to the Graduate Admissions Office.

3 Also, if the student will have a financial sponsor, the college must receive a notarized letter of support stating the sponsor will be financially responsible for the student while the student is attending Fitchburg State College. This letter must be mailed directly to the Graduate Admissions Office. Please note that no federal or state financial aid is available to students with F or J visas.

4 If the applicant is already in the United States, he/she must submit copies of the following:

- I-94 card
- Passport
- Visa Stamp
- Copies of all past I-20/ or IAP-66

5 If the student is transferring from another university or college in the United States, a Transfer Recommendation Form must be completed. You may also request this form from the International Education Office.

Application Deadlines for International Students

Spring Admission: Dec 1st
Summer Admission: May 1st
Fall Admission: July 1st

Admissions Procedures

Once all application materials have been received by the Admissions Office, the appropriate Departmental committee reviews an applicant's qualifications and makes its decision. The Dean of Graduate Studies transmits its decision to the student. The admission process is completed when the Dean concurs with the program's decision and approves or denies the applicant's admission. While admission decisions are prompted by a completed application, the admissions process and its outcome are based on academic department criteria.

Transfer of Credit

The Graduate Office accepts a maximum of 6 semester hours in transfer credits from regionally accredited graduate schools. The M.S. in Criminal Justice Program allows a maximum of 12 semester hours to be considered for transfer. An additional 6 semester hours of Fitchburg State College graduate credits may be transferred into a graduate program. All requests for transfer credit must be approved by the Graduate Program Chair. No more than 6 semester hours of course work at the 6000 level may be considered. Transfer credit requests are acted upon when a student is accepted as fully matriculated.

The transfer of credits must be approved by the student's Academic Advisor and by the Dean (forms are available in the Graduate Office) and meet the following criteria:

- A grade of B (3.0) or better
- Courses accepted in transfer must carry graduate level credit
- Courses must be relevant to degree specialization
- Transferred courses are only valid if taken within six years of the date of graduation from a matriculant's graduate program
- Courses previously counted toward a graduate degree or CAGS from FSC or another accredited institution do not qualify for transfer towards an FSC Master's or CAGS Program

Transferred courses are not included in cumulative GPA.

No requests for transfer credits are accepted during the Spring Semester prior to a student's anticipated graduation.

Residency Requirement

Students acquiring credit towards a Master's degree off-campus in affiliated programs must take at least 6 credits of core course requirements from Fitchburg State College Residency Faculty.

Fitchburg State College Residency Faculty are:

- Graduate Faculty
- Associate Graduate Faculty or,
- Adjunct Graduate Faculty designated "Residency Faculty" by the Graduate Council.

Graduate Program Chairs overseeing affiliating programs are responsible for ensuring that their students are provided the opportunity to meet the residency requirement by staffing appropriate core courses with Residency Faculty.

Academic Policies and Procedures

Advisors and Plan of Study

Graduate Advisors

Every student is assigned an advisor from the student's area of specialization. The advisor:

- Provides a vital link between the students, faculty, and the Dean
- Assists the degree candidate in developing a plan of study
- Approves all courses, including electives, accepted in the student's degree programs

All variances from the approved plan of study must be filed with the Registrar's Office. Plan of study forms are available in the Graduate Office or Registrar's Office.

Course Registration

Students must register for courses within the curriculum requirements as set in the College Catalog of the year of their matriculation. However, it is the right of the College to alter the requirements to meet statutory, educational, or professional standards.

For regularly scheduled courses, students must register before the second class meeting. Early registration is recommended for all matriculated graduate students and graduate applicants in order to secure seats in the courses needed to proceed in degree programs. The regular registration period ends two weeks prior to the start of the semester, with "late registration" and late charges commencing thereafter. Please refer to the current semester course bulletin for specific dates.

Advance Registration

Advance registration privileges are reserved for graduate students enrolled in CAGS and Master's degree programs at Fitchburg State College. Graduate degree students must make appointments with their advisors for Advance Registration.

Special Students

A special student holds a baccalaureate degree or higher and may take classes in most graduate or certificate programs, but is not matriculated as a degree candidate. Additional policies applying to special students are as follows:

- Special Students are allowed to register for a maximum of 6 credits in one discipline.
- To register for courses beyond 6 semester hours Special Students must matriculate or obtain written approval from the appropriate graduate program chair.
- Graduate courses at the 6000 level are exempt from this policy.
- Credit from courses may apply to a degree only if prerequisites for the program are met, the student is matriculated, and approval is received from the Program chair or advisor.

Waiver of Course Prerequisites

Waivers of course prerequisites, when authorized, are not to be construed either as waivers of program matriculation requirements or as waivers of credit hours required to complete a program.

Retention in a Graduate Degree Program

To maintain enrollment in a graduate program, students must:

- Receive a 2.8 average in undergraduate prerequisite course work as designated by individual graduate programs. Students must receive a 2.0 in all other undergraduate prerequisite course work outside of their major. Undergraduate prerequisite courses must be finished before graduate coursework can begin.
- Maintain a cumulative average of 3.0 in graduate coursework counted toward the degree or certificate.
- Adhere to the ethical/professional standards as defined by the profession and/or the academic department.

Probation and Academic Dismissal

- A student will be placed on probation if in any semester the student's graduate GPA falls between a 3.0 and a 2.75 cumulative average.

A student will be dismissed from the program:

- If after two semesters the student's graduate cumulative average is not 3.0 he/she will be dismissed from the program.
- If the graduate cumulative average falls below 2.75.
- If the graduate cumulative average of a student on probation remains between 3.0 and 2.75 for two consecutive enrollment periods.
- If the student has accumulated more than 6 semester hours of graduate credit with a grade of 2.0 even though the graduate cumulative average remains 2.75 or higher.
- If the student has received a grade of 0.0.
- If the student's cumulative average in designated undergraduate prerequisite coursework falls below 2.8.
- If the student's cumulative average in undesignated undergraduate prerequisite coursework falls below 2.0.

Course Load

The course load for a part-time graduate student is less than 9 credit hours in a given semester. These requirements preclude a greater load when a student has full-time employment.

The course load for a full-time graduate student is a minimum of 9 credit hours in a given semester.

The course load for half-time status is 5 credit hours.

The course load for a full-time Graduate Assistant is 6 semester hours per fall and spring semester, which is considered full-time status.

The maximum course load for any student during winter session is 6 credit hours. The maximum course load for any student during the combined summer sessions is 12 credit hours.

Any student registering for credit beyond the normal load must submit a written request seeking approval from the Dean prior to registering. Academic petition forms are available in the Graduate Office or from advisors.

Continued Progress Toward Degree

Matriculated students who do not register for classes for a full academic year (fall, spring, and summer) must request a leave of absence by writing to the Dean. Without an approved request a student is dismissed from the degree program.

Readmission to Degree Program

A student who has been dismissed from a program because of failure to request a leave of absence may reapply to the program.

A student who has been dismissed from a program for academic reasons may not register for further courses in that program at Fitchburg State College. After a minimum time period of one year, a student may apply to Fitchburg State College for readmission.

Readmission is contingent on the capability of the student to maintain at least a 3.0 GPA and on evidence that there are sufficient courses remaining in the student's program to achieve a 3.0. GPA.

The program/policies in effect at the time of readmission are those that the student must follow.

Grade Substitution Policy

Students who have been dismissed from a graduate program on academic grounds and who are subsequently readmitted to a program may retake courses in which they have received a 2.0 or a 0.0 grade. If the class is repeated, the new grade will be substituted for the original grade in calculating the student's cumulative GPA. The original grade, however, will continue to appear on the transcript. Transfer courses cannot be used to substitute for courses in which a grade of 2.0 or a 0.0 has been obtained.

Grading System

4.0	Superior
3.0 or 3.5	Good
2.0 or 2.5	Passing
0	Failure
W	Withdrew
IN	Incomplete
IP	In-Progress

Incomplete Course

An incomplete (IN) may be awarded with the recommendation of the instructor when the student has completed 80% of the coursework but cannot complete the rest due to illness or some other serious reason. The student must file a petition for an incomplete with the instructor prior to the last day of class. A student who has received an Incomplete in lieu of a course grade must make up the missing part or his/her coursework during the first four weeks of the following semester. Failure to do so will result in an automatic 0.0 for the course.

In-Progress Course

A grade of IP (In-Progress) may be awarded for thesis, practicum, internships, and clinical experience at the end of a given semester. Practicums and internships need to be completed within two semesters. The time limit for thesis is the six years allowed for the completion of a degree. If the thesis, internship and/or practicum are not completed within the allotted time then the IP grade will be changed to either an incomplete (IN) or a grade of 0.0.

Withdrawal from Courses

Withdrawal from courses may be made prior to the eighth class for regularly scheduled courses and prior to the eighteenth class hour for special scheduling or institute courses without academic penalty. Withdrawals may be initiated by phone by calling the Graduate and Continuing Education Office, or by visiting that office in the Sanders Administration Building. In either case, the student, the instructor, and the advisor must receive a confirming copy of the completed course withdrawal form.

Students who "withdraw" by simply not attending class, automatically receive a failing grade for the course.

See tuition and fees refund policy.

Cancellation of Course

The college may cancel courses for insufficient enrollment or for other reasons deemed to be in the best interest of the college. Students who sign up for a course which is canceled may transfer to another course or receive a full refund of tuition and fees.

Course Changes

Changes to courses must be made before the second meeting. (Class meeting time defined as 2.5 hours) No change in credit is permitted after the second class meeting. After the start of the second class meeting, the dropping of a class will be considered a withdrawal.

Audit

Students may enroll in courses on an audit (or non-credit) basis. The availability of seating in all classes is determined after all matriculated students, program applicants and credit-seeking students have registered. Permission of the instructor and the Dean is required prior to registration. Tuition and fees for audited courses are the same as those which apply to the courses when taken for academic credit. Students enrolled on an audit basis must have completed all applicable course prerequisites in order to have achieved the sufficient level of knowledge and expertise required by the course content. Students who elect the audit option may be required to complete course assignments, papers, presentations, etc. Final grades are not issued, however, courses audited will be so noted on the student's transcript. A change from credit to audit status, or from audit to credit status, must be made before the third class meeting of the course.

Independent Study Credit Policy

Independent study allows students to step outside of course offerings and explore a specialized area of study in a challenging new environment. Students are encouraged to seek out independent study opportunities under the guidance and supervision of a professor in whose specialization they wish to study. A maximum of six independent study credits is allowed in a master's degree program. Vouchers, graduate assistant tuition waivers, and veterans' tuition benefits may not be applied to independent study. Before embarking on an independent study applicants must receive approval from the instructor, their advisor, and the Dean of Graduate Studies. Only on-campus faculty supervises independent studies. Independent study should not be substituted for any course listed in the current catalog.

Veterans

The Office of Graduate and Continuing Education will continue to issue veterans' vouchers through June 30, 2001 to graduate students who matriculated in degree programs prior to July 1997.

As of July 1997, no new graduate student will be issued veterans' vouchers. Please refer to the catalog section on "Aid for Veterans" for more information.

Thesis

Several of the graduate programs at Fitchburg State College include a thesis requirement or thesis option. Students completing a thesis must adhere to the policies and standards set forth in the thesis guidelines. Thesis guidelines can be obtained through the Office of Graduate Studies or the student's academic department.

Second Master's Degree

Students holding a Master's degree from Fitchburg State College are generally not encouraged to enroll in a second Master's degree program but may want to consider a Certificate of Advanced Graduate Study (CAGS) program. To matriculate in a second Master's degree program the student must petition the Graduate Council for its approval.

Graduation Requirements

Students must:

- Maintain a minimum cumulative GPA of 3.0 in the degree program with no graduate coursework below a 2.0
- Successfully complete all program requirements
- Submit completed petitions/waivers for review to the Office of Graduate Studies no later than the eighth week of the spring semester prior to anticipated graduation
- For those writing a thesis, two copies of the successfully defended thesis must be submitted to the Office of Graduate Studies no later than the 14th week of the spring semester prior to anticipated graduation
- File an application for graduation with the Registrar's Office by January 1st of the year of anticipated graduation

Time Limits

Master's degree programs must be completed within six years of the date of the student's first course in the program.

Petition for Review

Students must request a review of their folder prior to the semester in which they will complete requirements for the degree. Application for Graduation Forms must be submitted to the Registrar's Office prior to January 1 to qualify for May graduation. Obtain forms from the Graduate Office or the Registrar's Office.

Student Complaints Policy

Right to Confer

- A student who is dissatisfied with a grade or any aspect of instruction has a right to confer with the instructor.
- A student who is dissatisfied with a grade, any aspect of instruction, or academic decision of a graduate program bearing on her or his status in a graduate program, has a right to confer with her or his advisor.
- A student who is dissatisfied with a grade, any aspect of instruction, or academic decision of a graduate program bearing on her or his status in a graduate program, has a right to confer with the program's Graduate Program Chair and Department Chair.
- A student seeking advice on how to proceed with a complaint about a grade, any aspect of instruction, or academic decision of a graduate program bearing on her or his status in a graduate program, has a right to confer with the Academic Director of Evening Programs or Evening Advisors in the Graduate and Continuing Education Office. International students also have a right to confer with the Office of International Education.

Department/Program Responsibilities

- Departments/Programs will make their policies and procedures for mediating/arbitrating student complaints readily available to students as a part of a Department/Program handbook, or, as a separate document.
- Entering matriculated students will be apprised of the Department's/Program's policies and procedures for mediating/arbitrating student complaints as a part of their orientation to the program.
- Each Department/Program will file its policies and procedures for mediating/arbitrating student complaints with the Office of the Dean.
- Every effort should be made by the Graduate Program Chair, in accordance with Department/Program policies and procedures, to informally mediate student complaints concerning academic matters.
- If informal mediation cannot be achieved, the complaint will be formally arbitrated at the Department/Program level in accordance with its policies and procedures for doing so. Usually, this will involve the participation of the Department's Graduate Committee.
- The burden of proof rests with the student.
- Departmental/Program decisions may be appealed on procedural grounds when bias is alleged.

Dean of Graduate Studies Responsibilities

- A student alleging bias may contest a Department's/Program's decision on procedural grounds by filing a formal appeal in writing to the Dean.
- In a timely manner, the Office of the Dean will conduct an investigation and will forward its findings, and the student's written appeal, to the Graduate Council.
- The Graduate Council will consider the appeal at its next available meeting.
- Within two weeks of the meeting, the Chair of the Graduate Council will forward a written recommendation to the Dean.
- The Dean, then, will communicate a decision in writing to the student, the Graduate Council, and the Graduate Program Chair.
- The final decision is made by the Dean.
- If it is decided that the Department/Program failed to appropriately follow its procedures for mediating/arbitrating student complaints, the case will be reheard within the Department with the Dean serving *ex officio* as a non-voting member of the committee.
- If it is decided that the Department/Program was unbiased—that it appropriately followed its procedures for mediating/arbitrating student complaints—the Department's/Program's decision will stand.

Non-Academic Student Complaints

- When sexual harassment, racial discrimination or other prohibited/illegal behaviors are alleged by a student to have occurred, the student should address her or his complaint to the Director of Human Resources/Affirmative Action.

Educational Certification Programs

The Fitchburg State College Graduate Division offers courses which may be used for certification purposes in several different areas, including Special Education, Counseling, School Administration, etc. Certification is the function of the Commonwealth's Bureau of Certification, not the college.

Students are advised to address any question regarding certification to:

Bureau of Teacher Preparation Certification and Placement
350 Main Street
Malden, Massachusetts 02148-5023
617-388-3300

Transcripts

Transcripts are prepared upon submission of a transcript request form. Please include your social security number, name, address, dates of attendance, and degree area. Transcripts are free of charge.

To obtain a transcript write to:

Office of the Registrar
Fitchburg State College
160 Pearl Street
Fitchburg, MA 01420-2697

Graduate Programs

Fitchburg State's Office of Graduate and Continuing Education schedules both undergraduate and graduate-level courses. Most programs are offered in the evenings; some may be offered on weekends or during the days in summer or winter session.

The Office of Graduate Studies offers programs of study leading to the following Graduate degrees:

Certificate of Advanced Graduate Study (CAGS)

Educational Leadership and Management
- Higher Education Administration
- School Principal
- Supervisor/Director
- Technology Leader

Interdisciplinary Studies

Teacher Leadership

Master's Degrees

Master of Arts

Biology

English

History

Master of Arts in Teaching

Biology*

Earth Science*

English*

History*

Mathematics*

Master of Business Administration

Accounting

Human Resources Management

Management

Master of Education

Arts Education

Educational Leadership and Management

Early Childhood Education*

Elementary Education*

Middle School Education*

Occupational Education

Science Education

Secondary Education

Special Education*
- Teacher of Students with Intensive Special Needs
- Teacher of Students with Special Needs
- Special Education: Guided Study

Technology Education

Master of Science

Communications/Media

Computer Science

Counseling
- Marriage and Family Therapy
- Mental Health Counseling
- School Guidance Counseling (PreK-9), (5-12)

Criminal Justice

Nursing (Forensic)

Certificate Programs

Adolescent and Family Therapy

Child Protective Services

Communications/Media

Early Intervention

Educational Technology

Fine Arts Director Program

Forensic Case Work

Forensic Nursing

Professional Mentoring for Teachers

School to Career Specialist

Substance Abuse Services

* *Options include a core curriculum which leads to certification in the field.*

GRADUATE DIVISION

Certificate of Advanced Graduate Study (CAGS)

General Philosophy

Fitchburg State College's CAGS programs are designed to meet well-defined career needs of professionals who have earned an appropriate Master's degree and who wish to attain greater competency in a combination of areas of study within one of the major CAGS fields offered.

General Description of Program

Each student's CAGS program is planned under the direction of an advisor and is built on the academic background, professional position, and career goals of the student. CAGS programs consist of an integrated core curriculum, supervised professional practice, an Internship, and elective courses.

General Program of Study

Upon acceptance into the program, the student's plan of study is developed with and approved by an advisor, who works with the student over the course of study. A minimum of thirty approved graduate credits is required to complete the CAGS with the following restrictions:

- CAGS courses may not repeat work previously accomplished by the student in other graduate degree study
- CAGS credits must be earned in Graduate-level courses

Details regarding the CAGS curricula, including information about required and elective courses, may be found in the specific CAGS program descriptions which follow.

CAGS—Interdisciplinary Studies

Graduate Program Chair
Harry Semerjian, EdD

Graduate Committee
Ronald P. Colbert, EdD
Rosemarie Giovino, EdD
Anita Hotchkiss, PhD
Bonnie House, MFA
Nancy Kelly, PhD
Aparna Mahadev, PhD
Edward Martens, PhD
Caroline Murphy, PhD
Donald Schmidt, PhD
Esmail Valanejad, PhD
Susan Williams, PhD

Program Objectives

The CAGS Program in Interdisciplinary Studies provides the opportunity for students who have completed a Master's degree to continue advanced degree study in two disciplines of their choice.

Program Description

The program allows participants to step out of the confines of their Master's degree and create a program of study based on their interests. This CAGS program invites the student to develop his/her ideas and hypotheses and to acquire new understanding and knowledge in such areas as developing critical thinking skills, improving interpersonal relationships, and employing reflection for intellectual growth. By broadening the individual's background the candidate becomes an effective leader, who has the knowledge and skills to influence institutional reform.

Admissions Standards and Criteria

To apply for enrollment in the CAGS in Interdisciplinary Studies, a student must submit documents as outlined in the Graduate Admissions section as well as:

- Documentation of a Master's degree from a regionally accredited institution
- MAT/GRE/GMAT exams not required

Program Requirements

Each student's CAGS program is planned and approved under the direction of an advisor and faculty member/professional from both disciplines chosen by the student. The CAGS consists of an integrated core curriculum, supervised professional practice, and/or an Internship and elective courses.

The integrated core curriculum consists of:

- Fifteen advanced graduate credits in two declared disciplines
- A graduate Internship demonstrating specified competencies in the two fields or graduate thesis related to the same
- A structured seminar taken while writing thesis or completing Internship

The student must complete 36 semester hours, which includes 6 semester hours of core course work and 15 semester hours in each of the two academic disciplines.

At the end of formal academic study, the student shall submit a proposal regarding the graduate thesis or Internship. The committee then meets to review the proposal and its criteria for evaluation implementation.

Potential Combined Fields of Study

Arts, Computer Science, Education, Educational Leadership, English, History, Occupational Education, Professional Staff Development, Psychology, Science, Special Education, and/or Women's Studies.*

** Students are not limited to the fields of study listed above.*

Program of Study

Required Core Curriculum

		Fifteen advance graduate credits in each declared discipline	*30 S.H.*
IDIS	*9400*	*Seminar and Internship in Interdisciplinary Studies* **or**	*6 S.H.*
IDIS	*9500*	*Seminar and Graduate Thesis*	*6 S.H.*
		Total for Certificate	***36 S.H.***

PROFILE

Christine Dion
Graduate Student, MBA

Christine earned a bachelor's degree in biology from Fitchburg State in 1996, and she's currently pursuing an MBA. She worked for two years as a Graduate Assistant at the college and served as the student representative to the school's Graduate Council during that time. Christine's graduate assistant work and her MBA courses helped pave the way for her current job in an accounting office. When she's not working or in class, she enjoys spending time with her family, and helps out with the family business—KBI Associates, a Worcester-based kitchen and bath remodeling company. Her goal is to be an accountant, and she believes her graduate degree will help ensure future success. "We need the education we get in the classroom," she acknowledges, "but we have to go beyond that, too, if we want to be pre-pared for today's competitive business world."

CAGS—Educational Leadership and Management

Graduate Program Chair
Ronald P. Colbert, EdD

Graduate Committee

George F. Bohrer, PhD
Roger Bothwell, EdD
Richard Carlson, EdD
Charles Conroy, EdD
Linda Denault, EdD
Laurie DeRosa, EdD
Michael Fiorentino, EdD
Charles W. Hetzel, PhD
John Judge, MEd
Anthony Luzetti, EdD
John Mara, CAGS
Anne Murray, EdD
Elisabeth Noyes, EdD
Kevin O'Malley, EdD
Edward Roberts, MEd
Harry Semerjian, EdD
Kristyn M. Snyder, JD
Anne Tardanico, MEd

Program Objectives

The CAGS in Educational Leadership and Management Program (EDLM) prepares the student to meet the standards of Massachusetts Certification as a Supervisor/Director (N-12) or School Principal (N-6, 5-9, 9-12).

About the Program

The CAGS Program is housed within the Education Department's graduate program. In a collaborative relationship, the EDLM Program promotes the general goals and beliefs of the carefully sequenced graduate program in Early Childhood, Elementary, and Middle School Education. Within this spirit relationships between faculty members in Education and other programs across the college have been allied.

Program Description

The CAGS program in Educational Leadership and Management is designed for students with the desire to:

- Develop competencies in managerial skills related to political arenas, personnel, fiscal affairs, acquisition of material resources, diverse publics and pupil populations, and organizational change
- Strengthen, deepen, and expand the knowledge base in the field of leadership and management in order to anticipate and to solve problems inherent in the educational system
- Demonstrate through course work and field-based experiences the knowledge, skills, and attitudes that are required to lead and manage an educational enterprise effectively and efficiently

The College offers preparation for two Massachusetts Certificates

Principal Certification (N-6, 5-9, 9-12)
Supervisor/Director-Certification (N-12)

There is an option for students who wish to supervise or direct Art and/or Music programs in school systems. Successful completion of the degree may be cited as justification for application for state certification as a supervisor/director.

Candidates in other content areas, who wish to supervise or direct, may, in consultation with their advisor, develop a plan of study designed to meet certification requirements, and upon completion of their program may apply directly with the Department of Education.

Higher Education Administration

Students majoring in higher education administration are prepared to assume the role of college administrator, admissions director; student personnel administrator; dean, director of institutional advancement, fund raising, or puhlic relations at junior colleges, senior colleges, and universities.

The key objectives are to prepare and develop the students with the neccssary skills and competencies to administer programs in universities, colleges, and junior colleges; to teach and conduct research in educational environments of all types; and to provide leaders for higher educational institutions and its related professions. (See page 215 for program details.)

Non-Certification Candidates

Students who do not wish to pursue certification but plan a program of study including courses from each of the four competency areas, may develop a thirty-nine semester hour program that meets their professional and personal goals. Such a program should be planned with and approved by the student's advisor.

Admissions Standards and Criteria

To apply for enrollment in the CAGS in Educational Leadership and Management program, candidates must submit documents as outlined in the Graduate Admission section as well as:

- A Master's degree from a regionally accredited institution
- An appropriate teaching certificate
- Minimum of three years teaching experience
- MAT/GRE/GMAT exams not required
- Applicants to NCATE approved graduate programs who do not have provisional with advanced standing certification must submit their score of the literacy portion of the Massachusetts Educator Certification Test as part of their application.

Program Requirements

A minimum of 39 graduate credits is required to complete the CAGS program. Students plan a program of study with their advisor that is based on professional interests and intent. The program includes courses from each of the four competency areas. The courses in these areas are multi-disciplined and cross departmental lines. In addition a supervised practicum and internship is required.

During the practicum/internship, the student becomes involved in a field-based educational administrative experience. Requirements include:

- Practicum is 300 clock hours within one year;
- Internship is 300 clock hours within one year;
- Students seeking standard certification may complete a 400 clock hour clinical experience;
- Optional thesis (EDLM 9500): A thesis topic is chosen in consultation with the student's advisor early in the last year of study, or not later than the completion of 24 semester hours of study. A student must successfully defend his/her thesis to a committee composed of the thesis advisor and a representative from the Graduate Division chosen by the Dean of Graduate Studies;
- Comprehensive Exam covering the basic principles and concepts inherent in the field of educational leadership and management;
- Students seeking standard certification may complete a 400 clock hour clinical experience.

Program of Study

Core Courses

EDLM	*8005*	*Foundations of Educational Administration*	*3 S.H.*
EDLM	*8050*	*Seminar: Research in Educational Leadership* **or**	
EDLM	*91XX*	*Practicum and Internship in Leadership and Management*	*6 S.H.*
EDLM	*9600*	*The Contemporary Educational Leader (Capstone)*	*3 S.H.*
		Subtotal of core courses	*12 S.H.*

Non-Certification Candidates plan a program of study including courses from each competency area.

Competency Areas

Political and Fiscal Affairs

EDLM	*7005*	*Politics of Education*	*3 S.H.*
EDLM	*7010*	*Physical Plants and Transportation*	*3 S.H.*
EDLM	*7040*	*Collective Bargaining in Education*	*3 S.H.*
EDLM	*8000*	*Community Relations*	*3 S.H.*
EDLM	*8020*	*Law for the Educator*	*3 S.H.*
EDLM	*8030*	*Public School Finance*	*3 S.H.*
EDLM	*9015*	*Public Relations Tools for Leaders*	*3 S.H.*
MGMT	*9320*	*Labor Management*	*3 S.H.*

Collegial Leadership and Consultation

EDLM	*7020*	*Organizational Theory and Educational Planning*	*3 S.H.*
EDLM	*7030*	*Introduction to Systems Approaches in Education*	*3 S.H.*
EDLM	*8006*	*Principles of Success for Practicing Administrators: Putting Plans into Action*	*3 S.H.*
EDLM	*8010*	*Human Resources and Personnel Administration*	*3 S.H.*
EDLM	*9000*	*The Principal: Organization and Administration of Elementary, Middle, and Secondary School*	*3 S.H.*
EDLM	*9010*	*Cases and Concepts in Educational Administration*	*3 S.H.*
EDLM	*9020*	*Collegial Supervision*	*3 S.H.*
EDLM	*9100*	*Dynamics of Planned Change*	*3 S.H.*
PSY	*8200*	*Principles of Guidance and Counseling*	*3 S.H.*

Technology for Educators

EDLM	*7000*	*Computer Application in Education*	*3 S.H.*
EDLM	*7510*	*Applying Computer Technology in Education*	*3 S.H.*
ETEC	*7800*	*Using the Computer as a Tool for Thinking Skills*	*3 S.H.*
ETEC	*8600*	*Computers and Writing*	*3 S.H.*
ETEC	*9100*	*Seminar in Educational Technology*	*3 S.H.*
ENGL	*8073*	*Computers and Writing*	*3 S.H.*
CRAR	*8146*	*Arts Technology in the Classroom*	*3 S.H.*

Diverse Publics and Populations

EDLM	*7520*	*Planning Professional Development Programs*	*3 S.H.*
EDLM	*7530*	*Schools, Family, Student Partnerships in Education*	*3 S.H.*
EDLM	*7600*	*Managing Diversity*	*3 S.H.*
EDLM	*8040*	*Curriculum Leadership and Evaluation*	*3 S.H.*
EDLM	*8800*	*Administration of Special Education Programs*	*3 S.H.*
SPED	*7000*	*Survey of Special Education*	*3 S.H.*
IDIS	*9065*	*Women in Contemporary Society*	*3 S.H.*
CRAR	*8145*	*Celebrating Diversity through the Arts*	*3 S.H.*
PSY	*8100*	*Child Abuse and Neglect*	*3 S.H.*

Option A—School Principal Core (N-6, 5-9, 9-12) Certification Supervisor/Director (N-12) Certification

Required Courses

EDLM	*8000*	*Community Relations*	*3 S.H.*
EDLM	*8010*	*Human Resources and Personal Administration*	*3 S.H.*
EDLM	*8020*	*Law for the Educator*	*3 S.H.*
EDLM	*8030*	*Public School Finance*	*3 S.H.*
EDLM	*8040*	*Curriculum Leadership and Evaluation*	*3 S.H.*
EDLM	*8050*	*Seminar: Research in Educational Leadership*	*3 S.H.*
EDLM	*9000*	*The Principal: Organization and Administration of the Elementary, Middle, and Secondary School*	*3 S.H.*
EDLM	*9020*	*Collegial Supervision*	*3 S.H.*
EDLM	*9100*	*Dynamics of Planned Change*	*3 S.H.*
EDLM	*9600*	*The Contemporary Educational Leader (Capstone)*	*3 S.H.*
EDLM	*91XX*	*Practicum/Internship in Leadership Management*	*6 S.H.*
		Total for CAGS	***39 S.H.***

Option B—Supervisor/Director (N-12) Certification

Required Courses **9 S.H.**

EDLM	*8000*	*Community Relations*	*3 S.H.*
EDLM	*8010*	*Human Resources and Personnel Administration*	*3 S.H.*
EDLM	*8020*	*Law for the Educator*	*3 S.H.*
EDLM	*8030*	*Public School Finance*	*3 S.H.*
EDLM	*9020*	*Collegial Supervision*	*3 S.H.*
EDLM	*9100*	*Dynamics of Planned Change*	*3 S.H.*
CRAR	*9051*	*Supervising, Directing and Leading in Arts Ed. I*	*3 S.H.*
CRAR	*9052*	*Supervising, Directing and Leading in Arts Ed. II*	*3 S.H.*
CRAR	*9060*	*Creative Arts Research*	*3 S.H.*
CRAR	*9070*	*Creative Arts Curriculum Development and Applications*	*3 S.H.*
EDLM	*9500*	*Free Elective or Thesis*	*3 S.H.*
EDLM	*91XX*	*Practicum/Internship in Leadership Management*	*6 S.H.*
		Total for CAGS	***39 S.H.***

Additional Clinical experience required for Standard Certification *6 S.H.*

GRADUATE DIVISION

CAGS—Educational Leadership and Management: Higher Education Administration

Graduate Program Chair
Ronald P. Colbert, EdD

Graduate Committee

George F. Bohrer, PhD
Roger Bothwell, EdD
Richard Carlson, EdD
Charles Conroy, EdD
Linda Denault, EdD
Laurie DeRosa, EdD
Michael Fiorentino, EdD
Charles W. Hetzel, PhD
John Judge, MEd
Anthony Luzetti, EdD
John Mara, CAGS
Anne Murray, EdD
Elisabeth Noyes, EdD
Kevin O'Malley, EdD
Edward Roberts, MEd
Harry Semerjian, EdD
Kristyn M. Snyder, JD
Anne Tardanico, MEd

Program Objectives

The key objectives of the CAGS in Educational Leadership and Management: Higher Education Administration Program are to prepare and develop students with the necessary skills and competencies to administer programs in universities, colleges, and junior colleges; to teach and conduct research in educational environments of all types; and to provide leaders for higher educational institutions and its related professions.

Program Description

The CAGS program in Educational Leadership and Management: Higher Education Administration is designed for students with the desire to:

- Assume the role of college administrators and policy makers, admissions directors, student personnel administrators, deans, directors of institutional advancement, fund raising at junior colleges, senior colleges, and universities.
- Pursue executive positions in cultural, educational, business, government, public policy, and human service organizations and agencies.
- Demonstrate through course work and field-based experiences the knowledge, skills, and attitudes that are required to lead and manage an educational enterprise effectively and efficiently.

Cohorts and Careers

The CAGS program is deliberately limited in enrollment and to students with interests related to the program areas of concentration to assure attention to the student's professional needs. Students come from varied academic backgrounds and institutional types and usually have some experience working in a higher education setting. Each entering cohort of students share some common courses and experiences.

Most students enter administrative, analytic or policy positions. Their initial work usually is in positions reflecting their areas of concentration in settings such as:

- University, college or community college administration;
- Public policy organizations and agencies in postsecondary education;
- Postsecondary continuing education in higher educational institutions, professional association, business or government.

Admissions Standards and Criteria

To apply for enrollment in the CAGS in Educational Leadership and Management program, candidates must submit documents as outlined in the Graduate Admissions section as well as:

Documentation of Master's degree from a regionally accredited institution

MAT/GRE/GMAT exams not required

Program Requirements

A minimum of 36 graduate credits is required to complete the CAGS program. The program curriculum consists of:

Three Transition Courses from the general Educational Leadership and Management track

A core of tightly-focused Concentration Courses intended to increase the student's knowledge about and understanding of the interrelated, societal, institutional, and personal dimensions, of higher and postsecondary education.

An Internship of 300 clock hours to be completed within one year, allows each student to link their academic work to their own professional development needs.

Program of Study

Transition Courses

The following are the basic courses required of CAGS students in the Educational Leadership and Management program:

EDLM	*8010*	*Human Resources*	*3 S.H.*
EDLM	*8020*	*Law for the Educator*	*3 S.H.*
EDLM	*8050*	*Seminar: Research in Educational Leadership*	*3 S.H.*

Concentration Courses

EDLM	*9026*	*History of Higher Education*	*3 S.H.*
EDLM	*9030*	*Leadership Theory*	*3 S.H.*
EDLM	*9040*	*Organizational Issues*	*3 S.H.*
EDLM	*9050*	*College and University Teaching*	*3 S.H.*
EDLM	*9060*	*Social Context*	*3 S.H.*
EDLM	*9070*	*Strategic Planning in Higher Education*	*3 S.H.*
EDLM	*9080*	*Practicum in Higher Education Administration*	*6 S.H.*
		Elective Course	*3 S.H.*
		Total for CAGS	***36 S.H.***

CAGS—Educational Leadership and Management: Technology Leader

Graduate Program Chair
Ronald P. Colbert, EdD

Graduate Committee

George F. Bohrer, PhD
Roger Bothwell, EdD
Richard Carlson, EdD
Charles Conroy, EdD
Linda Denault, EdD
Laurie DeRosa, EdD
Michael Fiorentino, EdD
Charles W. Hetzel, PhD
John Judge, MEd
Anthony Luzetti, EdD
John Mara, CAGS
Anne Murray, EdD
Elisabeth Noyes, EdD
Kevin O'Malley, EdD
Edward Roberts, MEd
Harry Semerjian, EdD
Kristyn M. Snyder, JD
Anne Tardanico, MEd

Program Objectives

The CAGS in Educational Leadership and Management: Technology Leader Program is designed to provide future leaders in technology to school systems. The technology leader degree track provides an in-depth examination of the implications of the technology revolution that has the potential to transform teaching and learning in our schools. Special emphasis is placed on the key rôle that technology leaders have in initiating the process of change, technology integration and faculty development. The track includes a variety of opportunity for hands-on technology-based experiences and includes critical core courses in educational leadership and management.

Program Description

The CAGS program in Educational Leadership and Management is designed for students with the desire to:

- Gain competence in the use of software applications as productivity and learning tools
- Develop perspective on their daily work by examining the theory and practice of education
- Create models that incorporate the use of technology to support effective teaching and curriculum development
- Explore the use of instructional technology to address contemporary educational issues
- Understand the implication of "digital literacy" for teaching and learning
- Plan for building and maintaining technology infrastructure within a school system.

Admissions Standards and Criteria

To apply for enrollment in the CAGS in Educational Leadership and Management: Technology Leader Program, candidates must submit documents as outlined in the Graduate Admissions section as well as:

A Master's degree form an accredited institution

MAT/GRE/GMAT exams not required

Program Requirements

A minimum of 36 graduate credits is required to complete the CAGS program. The program curriculum consists of:

Program of Study

Required Core Courses			
EDLM	*8005*	*Foundations of Educational Administration*	*3 S.H.*
EDLM	*8050*	*Seminar: Research in Educational Leadership*	*3 S.H.*
EDLM	*9100*	*Dynamics of Planned Change*	*3 S.H.*
EDLM	*9020*	*College Supervision*	*3 S.H.*
EDLM	*91XX*	*Practicum/Internship*	*6 S.H.*
		Subtotal	*18 S.H.*
Required Technology Courses			
ETEC	*9200*	*Project in Educational Technology*	*3 S.H.*
EDLM	*9002*	*Managing Educational Technology Infrastructure*	*3 S.H.*
		Subtotal	*6 S.H.*
Choose Four Electives in Consultation with Advisor (Samples of Electives)			
ETEC	*8700*	*Creating Educational Web Sites*	*3 S.H.*
ETEC	*7600*	*Impact of Technology in Education*	*3 S.H.*
ETEC	*7700*	*A Graphics Approach to Technology*	*3 S.H.*
ETEC	*7800*	*Using the Computer as a Research Tool*	*3 S.H.*
ETEC	*8600*	*Computer and Writing*	*3 S.H.*
		Subtotal	*12 S.H.*
		Total for CAGS	***36 S.H.***

CAGS—Teacher Leadership

Graduate Program Chair
Anne May, EdD

Graduate Committee
Shari Stokes, EdD

Program Objectives

The CAGS program in Teacher Leadership is designed to provide individuals who are desirous of playing a teacher leadership role in partnership with colleagues with the necessary collegial orientation and skills to work effectively with administrators, colleagues, family and community members to improve curriculum and instruction. Specifically, the program is designed for teachers who want to remain in the classroom, and yet, want to become competent in affecting the educational process for which they share responsibility.

Program Description

CAGS students in Teacher Leadership acquire an orientation of collegiality and support while becoming competent in the areas of communication, consultation, change facilitation, leadership, reflection, problem solving, and evaluation. They prepare to accept the role of instructional leader and mentor as they engage in research based practices. The course of study allows students to:

- contribute to the creation of an educational environment that fosters the development of shared leadership skills
- foster an educational environment for the development of effective teaching and learning skills by assisting fellow teachers in applying the pedagogy of effective teaching
- foster the development of children and young adults' critical thinking as a fundamental goal of instruction
- connect teaching, learning and assessment in a meaningful way
- develop values, skills and strategies for teaching children and young adults with diverse backgrounds and strengths
- Engage and encourage reflective teaching and self analysis in others
- employ exemplary coaching, mentoring supervisory competencies
- assimilate research-based practices into their existing repertoires and facilitate their inclusion in others
- acquire a repertoire of supervisory and observational skills that will support teachers in the use of varying styles of teaching for improving instruction
- create and disseminate useful resources for pre-service and in-service teachers

Admissions Standards and Criteria

To apply for enrollment in the CAGS in Consultation and Peer Leadership, a student must submit documents as outlined in the Graduate Admissions section as well as:

- Documentation of a Master's degree from a regionally accredited institution
- An appropriate teaching certificate
- MAT/GRE/GMAT exams not required

Program Requirements

The Certificate of Advanced Graduate Study in Consultation and Peer Leadership requires a total of 36 semester hours as follows:

- Twenty-seven credit hours required course work in Education and Psychology
- Nine credit hours as electives

Program of Study

Required Courses

EDUC/ SPED	*9010*	*The Adult Learner*	*3 S.H.*
PSY	*7020*	*Group Dynamics*	*3 S.H.*
EDLM	*9020*	*Collegial Supervision*	*3 S.H.*
EDLM	*9100*	*Dynamics of Planned Change*	*3 S.H.*
SPED	*9200*	*Consultation Strategies*	*3 S.H.*
EDUC/ SPED	*9250*	*Educational Strategies*	*6 S.H.*
EDUC/ SPED	*9350*	*Internship and Reflective Analysis Seminar*	*6 S.H.*
		Electives	*9 S.H.*
		Total for Certificate	***36 S.H.***

Master of Arts/Master of Arts in Teaching

Master of Arts in Biology
Master of Arts in Teaching Biology

Graduate Program Chair
George Babich, PhD

MAT Education Coordinator
Nancy Kelly, PhD

Graduate Committee
Chris Cratskey, PhD
Margaret Hoey, PhD
Howard Thomas, PhD
Graduate Student Representative

Program Objectives

The Master of Arts (MA) in Biology is designed to prepare the student for a career in Biology, Environmental Science, or for advanced study. The Master of Arts in Teaching (MAT) Biology prepares the candidate for Standard Certification at the secondary level.

Program Description

The MA program in Biology offers a flexible program of study designed to provide the best scientific experience and the most comprehensive exposure to biological literature available. Specifically, the MA program in Biology aims to:

- Promote graduate-level scholarship and the development of a strong scientific philosophy in the biological sciences
- Apply sound, scientific thinking to analyze biological issues in society and new discoveries in science
- Demonstrate an understanding of how science, ethics, and technology are related
- Develop strong critical thinking skills through the use of experimental investigation
- Develop various skills needed for employment within the scientific-technical community
- Demonstrate individual research abilities and communication skills through a thesis program or an independent research project

The Master of Arts in Teaching Biology program combines a core curriculum of both Biology and Education to give graduates a strong background in Biology while providing the skills for the complex process of teaching. The combination enables teachers to:

- Demonstrate the application of a wide range of biological knowledge including a bioethical perspective
- Expand their strategies for teaching science from a multicultural, gender-balanced perspective
- Demonstrate the ability to communicate verbally, orally, and quantitatively
- Develop strong critical thinking skills through the use of experimentation and integrate these skills into teaching

*Students without Provisional Certification with Advanced Standing may be admitted to the program, but will be required to complete additional course work leading to Provisional Certification with Advanced Standing including 75 hours of pre-practicum experiences and a 150 hour practicum.

Admissions Standards and Criteria

Applicants to the MA/MAT in Biology program must submit documents as outlined in the Graduate Admissions section as well as:

- An official transcript of a Bachelor's degree from an accredited institution, preferably with (but not limited to) a major or minor in biology or an allied discipline
- The official results of the Graduate Record Exam (GRE)
- Applicants to NCATE approved graduate programs who do not have provisional with advanced standing certification must submit their score of the literacy portion of the Massachusetts Educator Certification Test as part of their application.

Notes: Applicants with inadequate preparation will be required to take prerequisite courses prior to admission.

Students interested in the thesis option should contact a potential graduate advisor as part of the application process.

Program Requirements

The Masters of Arts in Biology program has a thesis and non-thesis track. Each track provides the student with a solid investigative core balanced by content course work. During the first year each student completes a biology seminar during which the student's writing and communication skills are evaluated. The thesis committee (comprised of the thesis advisor and at least two other graduate faculty) helps the student design a series of courses (electives) which aid him/her in successfully completing the thesis.

Students in the MAT programs complete 15 credits in biology to include at least one course in each of the following areas: ecology, molecular biology, genetics, developmental biology, environmental science and botany. Other areas of biology may also apply. In addition MAT candidates must complete 21 credits in Education courses directly related to certification requirements.

Program of Study

MA in Biology

Content Core in Biology			**15 S.H.**
BIOL	*7400*	*Bioethics*	*3 S.H.*
BIOL	*9004*	*Research in Biology*	*3 S.H.*
BIOL	*9011*	*Seminar in Biology*	*3 S.H.*
BIOL	*9010*	*Thesis*	*4-6 S.H.*
		Electives	*14-18 S.H.*
		Total for Degree	***36 S.H.***

MAT in Biology

BIOL	**7400**	**Bioethics**	**3 S.H.**
Content Core in Biology			**12 S.H.**
Professional Clinical Core*			
BIOL	*7500*	*Advanced Methods of Teaching at the Secondary Level I*	*3 S.H.*
BIOL	*7550*	*Advanced Methods of Teaching at the Secondary Level II*	*3 S.H.*
BIOL	*8250*	*Curriculum and Technology*	*3 S.H.*
BIOL	*8260*	*Curriculum Development and Design*	*3 S.H.*
EDUC	*8300*	*Research in Education*	*3 S.H.*
BIOL	*9400*	*Clinical Experience* **or**	*6 S.H.*
BIOL	*9500*	*Internship*	*6 S.H.*
		Total for Degree	***36 S.H.***

**The clinical core experience must include a research project. The proposal is developed in the Research in Education course and conducted during the clinical experience or internship.*

Additional Requirements for Student Who Do Not Have Provisional Certification with Advanced Standing

Students who do not have Provisional Certification with Advanced Standing take additional course work in the first year of the program leading to that level of certification. This includes:

Undergraduate Credits			
PSY	*2230*	*Adolescent Psychology*	*3 S.H.*
Graduate Credits			
EDUC	*7012*	*The Modern Secondary School (Includes 75 pre-practicum hours)*	*3 S.H.*
SCED	*9000*	*Methods in Biology and Earth Science Teaching*	*3 S.H.*
BIOL	*8090*	*Practicum*	*6 S.H.*

To be eligible for the practicum, students must have an appropriate base in the discipline as approved by their advisor and completed all of the above courses. The practicum (student teaching) is taken in conjunction with the Advanced Methods in Teaching at the Secondary Level I course.

Master of Arts in Earth Science Master of Arts in Teaching Earth Science

Graduate Program Chair
Robert F. Champlin, PhD

MAT Education Coordinator
Nancy Kelly, PhD

Graduate Committee
Robert J. Gardula, PhD
Lawrence R. Guth, PhD

Program Objectives

The Master of Arts in Teaching (MAT) Earth Science program is designed for students with Provisional Certification with Advanced Standing who are seeking Standard Certification as secondary school teachers of Earth Science. The program produces professional teachers who are able to combine a solid base of scholarship in a specific academic discipline with effective teaching strategies based on the findings of research.

Program Description

The MAT in Earth Science program offers graduate students rigorous scholarship within a specific academic discipline in combination with the pedagogical tools and strategies necessary for the most effective classroom teaching. The program is designed to prepare secondary school teachers for the twenty-first century and to provide models of exemplary teaching methods. Through involvement in intensive, supervised clinical experiences in the secondary school, candidates enhance their skills as educators and learn to analyze and evaluate effective teaching in their academic discipline. The program of study:

- Promotes the development of a scholar-teacher with a strong background in Earth Science, as well as skills in the complex process of teaching Earth Science
- Demonstrates the application of a wide range of scientific knowledge including theoretical, ethical, and experimental perspectives
- Suggests ways to integrate the role of women and racial and ethnic groups into traditional Earth Science courses
- Enables teachers to incorporate multicultural and gender-balanced perspectives into their strategies for teaching
- Develops rigorous critical thinking skills and integrates these skills into their teaching
- Inculcates a sound philosophy of teaching
- Enables students interested in Earth Science to pursue advanced studies
- Corresponds with the certification requirements of the Department of Education of the Commonwealth of Massachusetts

Admissions Standards and Criteria

To apply for enrollment in the Master of Arts in Teaching Earth Science program, students must submit documents as outlined in the Graduate Admissions Section as well as:

- Evidence of an undergraduate major in Earth Science or a relevant discipline (at least 30 credits)
- Applicants to NCATE approved graduate programs who do not have provisional with advanced standing certification must submit their score of the literacy portion of the Massachusetts Educator Certification Test as part of their application.

Program Requirements

Students in the MAT program in Earth Science must complete:

- Fifteen credits in Earth Science, including at least one course in each of the following areas: geology, astronomy, meteorology, and/or oceanography and ecology
- Additional Earth Science course work to meet the categories of Standard I, if the student enters the program with inadequate preparation in Earth Science at the undergraduate level
- Clinical core of five courses including: Advanced Methods of Teaching at the Secondary Level I and II, Curriculum and Technology, Curriculum Design and Development, Research in Education, and a Clinical Experience or Internship

Students work closely with an advisor in the academic concentration to design individual programs to further their knowledge, scholarship, and subject-related teaching skills.

Program of Study

		Content Core in Earth Science	*15 S.H.*
		Core Education Courses	*21 S.H.*

Content Core in Earth Science

Choose five of the seven courses listed:

ESCI	*7007*	*Ecology*	*3 S.H.*
ESCI	*7100*	*New England's Glacial Landscape*	*3 S.H.*
ESCI	*7200*	*Observational Astronomy*	*3 S.H.*
ESCI	*7300*	*Meteorology*	*3 S.H.*
ESCI	*7400*	*Oceanography*	*3 S.H.*
ESCI	*8100*	*Environmental Geology*	*3 S.H.*
ESCI	*9100*	*Independent Study*	*3 S.H.*
		Total	***15 S.H.***

Professional Clinical Core*

ESCI	*7500*	*Advanced Methods of Teaching at the Secondary Level I*	*3 S.H.*
ESCI	*7550*	*Advanced Methods of Teaching at the Secondary Level II*	*3 S.H.*
ESCI	*8250*	*Curriculum and Technology*	*3 S.H.*
ESCI	*8260*	*Curriculum Development and Design*	*3 S.H.*
EDUC	*8300*	*Research in Education*	*3 S.H.*
ESCI	*9400*	*Clinical Experience* **or**	*6 S.H.*
ESCI	*9500*	*Internship*	*6 S.H.*
		Total for Degree	***36 S.H.***

** The clinical core experience must include a research project. The proposal is developed in the Research in Education Course and conducted during the clinical experience or internship.*

Additional Requirements for Students Who Do Not Have Provisional Certification with Advanced Standing

Students who do not have provisional certification with advanced standing take additional course work in the first year of the program leading to that level of certification. This includes:

Undergraduate Credits

PSY	*2230*	*Adolescent Psychology*	*3 S.H.*

Graduate Credits

EDUC	*7012*	*The Modern Secondary School (Includes 75 pre-practicum hours)*	*3 S.H.*
SCED	*9000*	*Methods in Biology and Earth Science Teaching*	*3 S.H.*
ESCI	*8090*	*Practicum*	*6 S.H.*

To be eligible for the practicum, students must have an appropriate base in the discipline as approved by their advisor and completed all of the above courses. The practicum (student teaching) is taken in conjunction with the Advanced Methods in Teaching I course.

Master of Arts in English
Master of Arts in Teaching English

Graduate Program Chair
Marilyn A. McCaffrey, EdD

MAT Education Coordinator
Nancy Kelly, PhD

Graduate Committee

Roberta Adams, PhD
Janice Alberghene, PhD
Chola Chisunka, PhD
Lisa Gim, PhD
Arnold Gordenstein, PhD
Nancy Kelly, PhD
Irene Martyniuk, PhD
Marilyn A. McCaffrey, EdD
Thomas Murray, PhD
Donelle Ruwe, PhD
Doris Schmidt, PhD
Nancy Yee, PhD

Program Description

The English Department offers two graduate degrees in English, the Master of Arts in English and the Master of Arts in Teaching English.

The **Master of Arts in English** (MA) provides specialization in the study of the traditional and newer canons of literature, literary theories, and research writing. The MA is designed for students pursuing careers in literature, writing, research and community college or college teaching. It provides a background for students planning to go on to a Ph.D. program. A joint MA program with the History Department allows students to specialize in the History and Literature of Women and develop expertise in the interdisciplinary field of Women's Studies.

The **Master of Arts in Teaching English** (MAT) program is designed to develop the scholar-teacher by providing a strong specialization in the traditional and newer canon of literature in English with the theories and methodologies for teaching English in the middle and secondary schools. A Certification track within this program leads to standard certification as a teacher of English at the secondary level.

Program Objectives

The Master of Arts in English (MA) program is designed to train students to understand and employ a variety of strategies in literature, research, writing, and teaching, The Master of Arts program aims to:

- Promote graduate-level scholarship in the study of literature
- Encourage the development of a wide range of literary knowledge, including a global perspective
- Provide a wide range of courses, from Medieval Literature and Shakespeare's Major plays to Twentieth-Century Women's Fiction and Africa Through the Novel
- Polish and expand writing style and techniques, and
- Explore major literary theories and the history of English as a discipline

The History and Literature of Women track of the Master of Arts in English program is designed to prepare teachers, researchers, writers, and museum curators in an interdisciplinary area within the field of Women's Studies. It aims to provide students with the academic foundation needed to pursue doctoral work in Women's History, Women's Literature, or Women's Studies.

The **Master of Arts in Teaching English** (MAT) program is designed to develop the scholar-teacher by providing a strong background in English and skills for the complex process of teaching English. The Master of Arts in Teaching English program is designed for students interested in studying the theories, methodologies, and materials for teaching English in the middle and secondary schools in addition to broadening their knowledge of literature.

The MAT program aims to:

- Bridge the gap between cutting-edge scholarship and classroom practice
- Suggest ways to integrate the voices of women and minorities into the traditional literary canon
- Enable practicing teachers to expand strategies for teaching writing through the use of process writing, collaborative writing, and writing on the computer
- Enable practicing teachers to expand strategies for teaching literature through the application of current modes of criticism

MAT in English Certification program is designed to provide students with the necessary course work for Standard Certification as teachers of English. Students not holding Provisional Certification with Advanced Standing take additional course work during their first semesters leading to that level of certification.

Admissions Standards and Criteria

To apply for enrollment in the Master of Arts in English or Master of Arts in Teaching English program, a student must submit documents as outlined in the Graduate Admissions section as well as:

- An official transcript of a Bachelor's degree from an accredited institution, preferably with (but not limited to) a major or minor in English
- Applicants to NCATE approved graduate programs who do not have provisional certification with advanced standing must submit their score of the literacy portion of the Massachusetts Educator Certification Test as part of their application.

Note: Applicants with inadequate preparation for success in the program will be required to take undergraduate courses in English prior to admission. For those pursuing certification there may be additional prerequisite courses, depending upon previous course work in education.

Master of Arts in English Program of Study

Courses in specific periods and genres in American, British, and World Literature as well as literary research and theory are required.

ENGL	*8050*	*Graduate Research in English*	*3 S.H.*
ENGL	*9000*	*Literary Theory*	*3 S.H.*
Nine 9000-Level Literature Courses (must be approved by advisor)			*27 S.H.*

Master's Thesis: Students with the approval of the Graduate Committee may choose to do a thesis in place of two literature courses.

Total for Degree ***33 S.H.***

History and Literature of Women Program of Study

Required Core

ENGL	*8050*	*Graduate Research in English*	*3 S.H.*
HIST	*7450*	*Historiography*	*3 S.H.*
		Seminar in the History and Literature of Women	*3 S.H.*

Women's History and Literature Courses

		Three courses in the History of Women (must be approved by advisory)	*9 S.H.*
		Four courses in the Literature of Women (must be approved by advisory)	*12 S.H.*
		Master's Thesis	*6 S.H.*
		Total for Degree	***36 S.H.***

Master of Arts in Teaching Program of Study

ENGL	*8050*	*Graduate Research in English*	*3 S.H.*
ENGL	*8070*	*Literature in the Classroom*	*3 S.H.*
ENGL	*8071*	*Literature for Young Adults*	*3 S.H.*
ENGL	*8076*	*Process Writing Across the Curriculum*	*3 S.H.*
		Six 9000-Level Literature Courses (must be approved by advisory)	*18 S.H.*
		One English Education or Literature Elective (must be approved by advisor)	*3 S.H.*
		Total for Degree	***33 S.H.***

Master of Arts in Teaching English Certification Program of Study

ENGL	*8050*	*Graduate Research in English*	*3 S.H.*
ENGL	*8070*	*Literature in the Classroom*	*3 S.H.*
ENGL	*8071*	*Literature for Young Adults*	*3 S.H.*
ENGL	*8076*	*Process Writing Across the Curriculum*	*3 S.H.*
		Three 9000-Level Literature Courses (must be approved by advisor)	*9 S.H.*
		Subtotal	***21 S.H.***

Prerequisites for Provisional Certification with Advanced Standing

These courses do not count toward the 39 credits required for the MAT.

**EDUC*	*7012*	*The Modern Secondary School and Prepracticum (75 hours)*
**PSY*	*2230*	*Adolescent Psychology*
**ENGL*	*8090*	*Practicum (150 hours)*

**Must precede Education Core.*

Education Core for Standard Certification

ENGL	*7500*	*Advanced Methods of Teaching at the Secondary Level I*	*3 S.H.*
ENGL	*7550*	*Advanced Methods of Teaching at the Secondary Level II*	*3 S.H.*
ENGL	*8250*	*Curriculum and Technology*	*3 S.H.*
ENGL	*8260*	*Curriculum Development and Design*	*3 S.H.*
ENGL	*9400*	*Clinical Experience (400 hours) and Research Project* **or**	
ENGL	*9500*	*Internship (400 hours) and Research Project*	*6 S.H.*
		Subtotal	***18 S.H.***
		Total	***39 S.H.***

Master of Arts in History
Master of Arts in Teaching History

Graduate Program Chair
Sibyl Brownlee, PhD

MAT Education Coordinator
Nancy Kelly, PhD

Graduate Committee
Benjamin Lieberman, PhD
Ralph Coffman, PhD

Program Objectives

The Master of Arts (MA) in History is designed for students pursuing careers in historical research, writing, or post-secondary level teaching. The Master of Arts in Teaching (MAT) History combines advanced studies in both history and the teaching of history. The MAT Clinical Track (Track B) leads to Standard Certification at the secondary level as a teacher of history.

Program Description

The curriculum for both the MA and MAT programs aims to:

- Promote graduate-level historical scholarship
- Support and encourage the development of a wide range of historical knowledge, including a global perspective

Additionally, the MAT program strives to:

- Expand the scholar/teacher's skills in the complex process of teaching history
- Enable practicing teachers to expand their strategies for teaching history from a multicultural, gender-balanced perspective

Admissions Standards and Criteria

To apply for enrollment in either the Master of Arts or Master of Arts in Teaching History programs, students must submit documents as outlined in the Graduate Admissions section as well as:

- An official transcript of a Bachelor's degree from a regionally accredited institution, preferably with (but not limited to) a major or minor in History
- Applicants to NCATE approved graduate programs who do not have provisional with advanced standing certification must submit their score of the literacy portion of the Massachusetts Educator Certification Test as part of their application.

For those pursuing the MA, a writing sample must be submitted. This may include an undergraduate level term paper or a published article and should be the equivalent of at least ten typed, doubled-spaced pages and include footnotes and a bibliography.

Note: Applicants with inadequate preparation in history are required to take undergraduate courses in history prior to admission.

Program Requirements

The MA program requires 36 hours of academic work, including completion of a master's thesis. Two tracks are available, described in the program of study. All degree candidates must pass a written comprehensive examination with questions in at least two different historical areas and one historiography question related to the thesis topic. Students are also required to pass an oral thesis defense. Details regarding advancement to candidacy are available from the History Department.

The MAT program has two tracks. Both tracks include a content core in history.

Track A is for teachers who are already certified and seeking advanced studies in history and the teaching of history.

Track B is for students with Provisional Certification with Advanced Standing who seek Standard Certification*. In addition to the content core, students must complete a 21-credit clinical core of education courses designed to fulfill requirements for Standard Certification.

**Students applying for Track B who do not have Provisional Certification with Advanced Standing may be admitted to the program but will be required to complete additional course work leading to Provisional Certification with Advanced Standing including 75 hours of pre-practicum experiences and a 150 hour practicum.*

MA in History Program of Study

The MA in History Program offers two tracks.

Track A—Master of Arts

Course requirements for Track A of the MA are:

One course in each of three areas:			
		European History	*3 S.H.*
		U.S. History	*3 S.H.*
		Non-Western History	*3 S.H.*
HIST	*7450*	*Historiography*	*3 S.H.*
		Elective	*3 S.H.*
		Area of Specialization, to include at least two seminars	*15 S.H.*
		Thesis	*6 S.H.*
		Total for Degree	***36 S.H.***

Track B—Master of Arts

Track B focuses on the History and Literature of Women.

Course requirements for Track B of the MA degree are:

Required Core			
ENGL	*8050*	*Graduate Study and Research in English*	*3 S.H.*
HIST	*7450*	*Historiography*	*3 S.H.*
		Seminar in the History and Literature of Women	*3 S.H.*
		Subtotal	*9 S.H.*
Women's History and Literature Courses			
		Two courses in the History of Women	*6 S.H.*
		Two courses in the Literature of Women	*6 S.H.*
		Subtotal	*12 S.H.*
Electives in History and Literature of Women			
		Two courses in History of Women	*6 S.H.*
		Course in the Literature of Women	*3 S.H.*
		Subtotal	*9 S.H.*
Master's Thesis			
		Thesis Writing	*6 S.H.*
		Total for Degree	***36 S.H.***

MAT in History Program of Study

The MAT in History offers two tracks.

Requirements

Students in both tracks of the MAT degree program complete a 15 credit content core in history including at least one course in each of the following areas:

		Non-Western History	*3 S.H.*
		World History	*3 S.H.*
		U.S. History	*3 S.H.*
		European History	*3 S.H.*
HIST	*7450*	*Historiography*	*3 S.H.*
		Sub-total	*15 S.H.*

Track A—Master of Arts in Teaching

		Content Core in History	*15 S.H.*
		Area of Specialization	*15 S.H.*
		History Elective	*3 S.H.*
		Relationship Between History and Other Fields of Knowledge in the Social Science	*3 S.H.*
		Total for Degree	***36 S.H.***

Track B—Master of Arts in Teaching

		Content Core in History	*15 S.H.*

Professional Clinical Core*

HIST	*7500*	*Advanced Methods of Teaching at the Secondary Level I*	*3 S.H.*
HIST	*7550*	*Advanced Methods of Teaching at the Secondary Level II*	*3 S.H.*
HIST	*8250*	*Curriculum and Technology*	*3 S.H.*
HIST	*8260*	*Curriculum Development and Design*	*3 S.H.*
EDUC	*8300*	*Research in Education*	*3 S.H.*
HIST	*9400*	*Clinical Experience* **or**	*6 S.H.*
HIST	*9500*	*Internship*	*6 S.H.*
		Total for Degree	***36 S.H.***

**The clinical core experience must include a research project. The proposal is developed in the Research in Education course and conducted during the clinical experience or internship.*

Additional Requirements for Students Who Do Not Have Provisional Certification with Advanced Standing

Students in the MAT programs who do not have Provisional Certification with Advanced Standing take additional course work in the first year of the program leading to that level of certification. This includes:

Undergraduate Credits

PSY	*2230*	*Adolescent Psychology*	*3 S.H.*

Graduate Credits

EDUC	*7012*	*The Modern Secondary School (Includes 75 pre-practicum hours)*	*3 S.H.*
ENGL	*8076*	*Process Writing Across the Curriculum*	*3 S.H.*
HIST	*8090*	*Practicum (150 hours)*	*6 S.H.*

To be eligible for the practicum, students must have an appropriate base in the discipline as approved by their advisor and completed all of the above courses. The practicum (student teaching) is taken in conjunction with the Advanced Methods in Teaching at the Secondary Level I course.

Master of Arts in Mathematics Master of Arts in Teaching Mathematics

Graduate Program Chair
Lucy Dechéne, PhD

MAT Education Coordinator
Nancy Kelly, PhD

Graduate Committee
Richard Bisk, PhD
Christine Cosgrove, PhD
Gerald M. Higdon, PhD
Barry Light, EdD
Claire McAndrew, EdD
Mark Snyder, PhD
Abdulkeni Zekeria, PhD

Program Objectives

The Master of Arts in Teaching Mathematics program is designed to provide sufficient content courses in mathematics and professional courses in education to educate students in advanced mathematics and to prepare candidates for Standard Certification at the secondary level.

Program Description

The MAT program in mathematics aims to:

- Enhance and deepen the candidate's knowledge of mathematics
- Develop the candidate's teaching skills
- Strengthen the interactive connection between field-based experience and knowledge of theory
- Provide interdisciplinary studies
- Improve the candidate's skills to:
  a. Communicate with high school students and evaluate their progress
  b. develop and evaluate curriculum
  c. continue his/her own professional development

Two tracks are available: Track A is a professional graduate track for those who desire advanced study in mathematics and/or who currently hold Standard Certification at the Secondary Level. Track B is for students with Provisional Certification with Advanced Standing*. In addition to the content core, students must complete a 21-credit clinical core of education courses designed to prepare the student for Standard Certification at the Secondary Level. Each semester various content courses will be offered. Students should check current class listing for course selection.

Admission Standards and Criteria

To apply for enrollment in either the Master of Arts or Master of Arts in Teaching Mathematics program, students must submit documents as outlined in the Graduate Admissions section as well as:

- An official transcript of a baccalaureate degree from a regionally accredited institution, preferably with (but not limited to) a major in mathematics.
- The official results of the Graduate Record Exam (GRE).
- Applicants with inadequate preparation in mathematics will be required to take undergraduate courses in mathematics prior to admission. For those pursuing certification there may be additional prerequisite courses depending upon what previous coursework in education has been completed.
- Applicants to NCATE approved graduate programs who do not have provisional with advanced standing certification must submit their score of the literacy portion of the Massachusetts Educator Certification Test as part of their application.

Program Requirements

All students must complete a core of at least one content mathematics course in each of the following three groupings:

1. Algebra
   Number Theory
2. Analysis
   Probability
3. Geometry
   Mathematical Modeling
   Discrete Mathematics

Additionally, all students must satisfactorily pass two approved comprehensive examinations. One exam must cover two of the above three content course groupings. The other may be in education.

Students in Track A, the professional graduate track, must complete 21 semester hours of content courses in mathematics and 9 semester hours of electives.

Students in Track B, the clinical track, must complete 15 semester hours of content courses in mathematics and a 21-credit clinical core of education courses directly related to certification requirements.

Program of Study

Track A

Content Courses in Mathematics		*21 S.H.*
Approved Electives		*6 S.H.*
Electives in Education		*3 S.H.*
Total Credits		***30 S.H.***

Track B

		Content Courses in Mathematics	*15 S.H.*
Professional Clinical Core**			
MATH	*7500*	*Advanced Methods of Teaching at the Secondary Level I*	*3 S.H.*
MATH	*7550*	*Advanced Methods of Teaching at the Secondary Level II*	*3 S.H.*
MATH	*8250*	*Curriculum and Technology*	*3 S.H.*
MATH	*8260*	*Curriculum Development and Design*	*3 S.H.*
EDUC	*8300*	*Research in Education*	*3 S.H.*
MATH	*9400*	*Clinical Experience* **or**	*6 S.H.*
MATH	*9500*	*Internship*	*6 S.H.*
		Total Credits	***36 S.H.***

***The clinical core experience must include a research project. The proposal is developed in the Research in Education course and conducted during the clinical experience or internship.*

***Additional Requirements for Students Who Do Not Have Provisional Certification With Advanced Standing**

Students in the MAT programs who do not have provisional certification with advanced standing take additional course work in the first year of the program leading to that level of certification. This includes:

Undergraduate Credits			
PSY	*2230*	*Adolescent Psychology*	*3 S.H.*
Graduate Credits			
EDUC	*7012*	*The Modern Secondary School (Includes 75 pre-practicum hours)*	*3 S.H.*
		One additional approved professional course	*3 S.H.*

To be eligible for the practicum, students must have an appropriate base in the discipline as approved by their advisor and completed all of the above courses. The practicum (student teaching) is taken in conjunction with the Advanced Methods in Teaching at the Secondary Level I course.

MBA—Master of Business Administration

Graduate Program Chair
Joseph McAloon, MBA

Graduate Committee
Diane Caggiano, JD
John McKeon, MS
James T. Noonan, MBA
Janette M. Purcell, PhD
Timothy Shea, PhD
Gary Vostok, MBA, CPA, CMA
Louis J. Zivic, EdD

Program Objectives

The Master of Business Administration (MBA) degree is designed to provide students with the skills and knowledge necessary to become leaders in business and in administration. It seeks to develop decision makers with strong analytical skills who are socially responsible, sensitive to cultural diversity, and aware of the broadening world market.

Program Description

The MBA program is comprised of three course clusters, including 24 credits of a foundation level core and 30 credits from an advanced core and specialized tracks. To complete the degree students must fulfill the following:

Eight courses (24 credits) at the foundation level

The foundation courses provide essential background knowledge regarding accounting, economics, management, marketing, finance, quantitative analysis, business law, and data processing. (It is assumed that most students entering the program with an undergraduate degree in business administration will be able to waive these foundation courses. Life experience credit may be used for waiver of some of the foundation courses based on evaluation and recommendation of a faculty committee.)

Six courses (18 credits) in advanced core

In the advanced core students acquire advanced skills and knowledge regarding current business and management practice and methodology.

Three specialized tracks

The specialized tracks are in the fields of accounting, human resources management, and management. Each track includes three specialized courses and one free elective.

Admissions Standards and Criteria

Admissions criteria meet the standards of the three national accrediting agencies (AACSB and ACBSP). To enroll in the Master of Business Administration Program, a student must submit documents as outlined in the Graduate Admissions section as well as:

- The official results of the Graduate Management Admissions Test (GMAT)

In addition to the College's standard admission requirements for Master's degree programs, all applicants are expected to have:

- An undergraduate GPA not less than 2.8
- A GMAT score of not less than 400
- TOEFL scores for natives of non-English speaking countries
- A formula score of not less than 1000
  Formula = (200 X undergraduate gpa) + GMAT score

Applicants whose formula score is less than 1000 but whose record exhibits promise in other ways may be admitted. No more than 10 to 20 percent of MBA candidates are accepted under these circumstances.

Program of Study

Foundation Core Courses—Undergraduate
(applies to all tracks)

BSAD	*1700*	*Introduction to Computer Information Systems (or equiv.)*	*3 S.H.*
BSAD	*3200*	*Principles of Management*	*3 S.H.*
BSAD	*3300*	*Fundamentals of Marketing*	*3 S.H.*
BSAD	*3400*	*Basic Finance*	*3 S.H.*
BSAD	*3500*	*Business Law I*	*3 S.H.*
ECON	*1200*	*Principles of Economics, Micro*	*3 S.H.*

Foundation Core Courses—Graduate

MGMT	*7001*	**Quantitative Methods for Business*	*3 S.H.*
MGMT	*7002*	***Accounting for Graduate Students*	*3 S.H.*
		Subtotal	*24 S.H.*

** MGMT 7001 Quantitative Methods for Business can be replaced by Math 2200 (Calculus for Business) and Math 1800 (Business Statistics). Approval done on a case-by-case basis.*
***MGMT 7002 Accounting for Graduate Students may be replaced by BSAD 2010 (Introduction to Financial Reporting) and BSAD 2020 (Introduction to Managerial Accounting) or equivalent. Approval done on a case-by-case basis.*

Advanced Core Requirements/Applications
(applies to all tracks)

MGMT	*9040*	*Organizational Behavior and Development*	*3 S.H.*
MGMT	*9060*	*Management Information Systems*	*3 S.H.*
MGMT	*9160*	*Marketing Management*	*3 S.H.*
MGMT	*9170*	*Corporate Finance*	*3 S.H.*
MGMT	*9180*	*Accounting Practices for Managers* **or**	
MGMT	*9030*	*Accounting Theory (for Accounting Track students only)*	*3 S.H.*
MGMT	*9500*	*Business Policy*	*3 S.H.*
		Subtotal	*18 S.H.*

Track Electives

The specialization in Accounting, Human Resources Management, or Management includes a free elective. To satisfy the requirement, the student chooses a course from any of the MBA course offerings or, with permission of the Graduate Program Chair, a course from another graduate discipline. Selected Topics courses may be counted as directed electives only with prior approval of the Graduate Program Chair.

Accounting Track

A. Foundation Core Courses			**24 S.H.**
B. Advanced Core Courses			**18 S.H.**
C. Required Accounting Track Courses*			
MGMT	*9032*	*Advanced Financial Accounting Issues*	*3 S.H.*
MGMT	*9034*	*Selected Topics in Advanced Managerial Accounting*	*3 S.H.*
MGMT	*9036*	*Accounting Information Systems*	*3 S.H.*
		Subtotal	***9 S.H.***
D. Free Elective			**3 S.H.**
		Total for Degree	***54 S.H.***

**Note: Students electing the Accounting Track must either be graduates of approved undergraduate Accounting programs or have at least 24 undergraduate credit hours beyond Basic Accounting with the approval of the Program Director.*

Human Resources Management Track

A. Foundation Core Courses			**24 S.H.**
B. Advanced Core Courses			**18 S.H.**
C. Required Human Resources Management Track Courses			
MGMT	*9050*	*The Human Resources Function and the Manager*	*3 S.H..*
MGMT	*9070*	*Legal Issues in Human Resources Management*	*3 S.H.*
MGMT	*9450*	*Selected Topics in Management (approved by chair for HR relevance)*	*3 S.H.*
		Subtotal	***9 S.H.***
D. Free Elective			***3 S.H.***
		Total for Degree	***54 S.H.***

Management Track

A. Foundation Core Courses			**24 S.H.**
B. Advanced Core Courses			**18 S.H.**
C. Required Management Track Courses			
MGMT	*9050*	*The Human Resources Function and the Manager*	*3 S.H.*
MGMT	*9080*	*Management Theory and Process*	*3 S.H.*
D. Directed Elective Courses			
Choose at least one:			
MGMT	*9100*	*Business and Society*	*3 S.H.*
MGMT	*9130*	*Legal Environment of Business*	*3 S.H.*
MGMT	*9008*	*Quality Management Theory*	*3 S.H.*
MGMT	*9002*	*Management of the Global Environment*	*3 S.H.*
MGMT	*9020*	*Economic Theory and Managerial Decision Making*	*3 S.H.*
MGMT	*9450*	*Selected Topics in Management*	*3 S.H.*
		Subtotal	***9 S.H.***
E. Free Elective			**3 S.H.**
		Total for Degree	***54 S.H.***

Master of Education Programs

MEd—Arts Education

Graduate Program Chair
Harry Semerjian, EdD

Graduate Committee
Marilyn McCaffrey, EdD

Program Objectives

The program of study for the Master of Education in Arts Education is designed to provide creative experiences in the arts for teachers and community workers and enables them to transfer the creative process to their professional situations.

Program Description

The curriculum for the Master of Education in Arts Education integrates the arts and the creative process in three course areas, including core courses in Arts Education and Curriculum, Distribution courses in special topics, and electives, which may include Independent Study or Field Experience.

Admissions Standards and Criteria

To apply for enrollment in the Master of Education in Arts Education program, students must submit documents as outlined in the Graduate Admissions section on as well as:

- An official transcript of a Bachelor's degree from a regionally accredited institution preferably with (but not limited to) a major or minor in an art area such as language arts, visual arts, music, physical education or dance
- A paper outlining the student's rationale for entering the program

Program of Study

Core Courses

CRAR	*9051*	*Supervising, Directing and Leading in Arts Education I*	*3 S.H.*
CRAR	*9052*	*Supervising, Directing and Leading in Arts Education II*	*3 S.H.*
CRAR	*9060*	*Creative Arts Research*	*3 S.H.*
CRAR	*9070*	*Creative Arts Curriculum Development and Applications*	*3 S.H.*
		Subtotal	*12 S.H.*

Distribution Courses

Students choose at least one course from each of the five Special Topics Distribution Areas.

Special Topics in Integrated Arts	*3 S.H.*
Special Topics in Music	*3 S.H.*
Special Topics in Movement	*3 S.H.*
Special Topics in Language Arts/Drama	*3 S.H.*
Special Topics in Visual Arts	*3 S.H.*
Subtotal	*15 S.H.*

Additional Courses

A minimum of 6 semester hours must be fulfilled in one of the following ways:

Courses from any of the above distribution areas	
Credits transferred into the program	
Courses related to graduate areas such as counseling, English, education, management, etc.	
Independent Study	
Field Experiences in Creative Arts	
Subtotal	*6 S.H.*
Total for Degree	***33 S.H.***

See also Fine Arts Director Certificate Program.

MEd—Educational Leadership and Management

Graduate Program Chair
Ronald P. Colbert, EdD

Graduate Committee

George F. Bohrer, PhD
Roger Bothwell, EdD
Richard Carlson, EdD
Charles Conroy, EdD
Linda Denault, EdD
Laurie DeRosa, EdD
Michael Fiorentino, EdD
Charles W. Hetzel, PhD
John Judge, MEd
Anthony Luzetti, EdD
John Mara, CAGS
Anne Murray, EdD
Elisabeth Noyes, EdD
Kevin O'Malley, EdD
Edward Roberts, MEd
Harry Semerjian, EdD
Kristyn M. Snyder, JD
Anne Tardanico, MEd

Program Objectives

The Master of Education in Educational Leadership and Management Program (EDLM) prepares the student to meet the standards of Massachusetts Certification as either a Supervisor/ Director (N-12) or School Principal (N-6, 5-9, 9-12). The program offers courses and experiences, which equip school administrators with the skills and competencies necessary for becoming an effective educational leader.

About the Program

The Educational Leadership and Management Program is housed within the Education Department's Graduate program. In a collaborative relationship, the EDLM Program promotes the general goals and beliefs of the carefully sequenced Graduate program in Early Childhood, Elementary, and Middle School Education. Within this spirit, relationships between faculty members in Education and other programs across the college have been allied.

Program Description

The program endorses the development of educators who are reflective, person-centered practitioners able to effectively construct, articulate, and apply educational theory and research. The program aims to prepare students to:

- Develop competencies in managerial skills related to political arenas, personnel, fiscal affairs, acquisition of material resources, diverse populations, and organizational change
- Strengthen, deepen, and expand the knowledge base in the field of leadership and management in order to anticipate and to solve current and future problems inherent in the educational system
- Demonstrate through course work and field-based experiences the knowledge, skills, and attitudes that are required to lead and manage an educational enterprise effectively and efficiently

The College offers preparation for two Massachusetts Certificates

Principal Certification (N-6, 5-9, 9-12)
Supervisor/Director-Certification (N-12)

There is an option for students who wish to supervise or direct Art and/or Music programs in school systems. Successful completion of the degree may be cited as justification for application for state certification as a supervisor/director.

Candidates in other content areas who wish to supervise or direct may, in consultation with their advisor, develop a plan of study designed to meet certification requirements, and upon completion of their program may apply directly with the Department of Education.

Non-Certification Candidates

Students who do not wish to pursue certification may, in consultation with their advisor, plan a 39 credit program of study that meets their professional and personal goals. Courses from each of the four competency areas should be included.

Admissions Standards and Criteria

To apply for enrollment in the MEd in Educational Leadership and Management program, the student must submit documents as outlined in the Graduate Admissions section on as well as:

- An official transcript of a Bachelor's degree from a regionally accredited institution (applicants who graduated after April 1995 should have a Bachelor's degree in Liberal Arts and Sciences and hold provisional certification with advanced standing in education.)
- An appropriate teaching certificate
- A minimum of three years of teaching experience
- Applicants to NCATE approved graduate programs who do not have provisional with advanced standing certification must submit their score of the literacy portion of the Massachusetts Educator Certification Test as part of their application.

Program Requirements

A minimum of 39 graduate credits is required to complete the MEd program as well as to prepare for application for one of the two certificates: Principal/Supervisor/Director Certification (Track A) and Supervisor/ Director-Art or Music (Track B). A minimum of 45 credits is required for standard Certification.

Both programs consist of:

- A core of tightly-focused and comprehensive courses;
- Students within the Massachusetts certification sequence are involved in three broad based pre-practicum experiences leading up to the formal practicum/internship. A supervised practicum/internship in the form of field based educational experience.
  The practicum is 300 clock hours to be completed within one year. The internship is 300 clock hours to be completed within one year;
- Students seeking standard certification may complete a 400 clock hour clinical experience;
- Optional Thesis (EDLM 9500): A thesis topic is chosen in consultation with the student's advisor early in the last year of study, or no later than the completion of 24 semester hours of study. A student must successfully defend his/her thesis to a committee composed of the thesis advisor and a representative from the Graduate Division chosen by the Dean of Graduate Studies;
- Comprehensive Exam covering the basic principles and concepts inherent in the field of educational leadership and management.

Program of Study

Track A—School Principal (N-6, 5-9, 9-12) Certification Supervisor/Director (N-12) Certification

Required Courses

EDLM	*8000*	*Community Relations*	*3 S.H.*
EDLM	*8010*	*Human Resources and Personnel Administration*	*3 S.H.*
EDLM	*8020*	*Law for the Educator*	*3 S.H.*
EDLM	*8030*	*Public School Finance*	*3 S.H.*
EDLM	*8040*	*Curriculum Leadership and Evaluation*	*3 S.H.*
EDLM	*8050*	*Seminar: Research in Educational Leadership*	*3 S.H.*
EDLM	*9000*	*The Principal: Organization and Administration of the Elementary, Middle, and Secondary School*	*3 S.H.*
EDLM	*9010*	*Cases and Concepts in Educational Administration*	*3 S.H.*
EDLM	*9020*	*Collegial Supervision*	*3 S.H.*
EDLM	*9100*	*Dynamics of Planned Change*	*3 S.H.*
EDLM	*91XX*	*Practicum/Internship in Leadership Management*	*6 S.H.*
		Elective in consultation with advisor	*3 S.H.*
		Total for Degree	***39 S.H.***

Additional Clinical Experience Required for Standard Certification 6 S.H.

Track B—Supervisor/Director Art or Music

Required Courses

EDLM	*8000*	*Community Relations*	*3 S.H.*
EDLM	*8010*	*Human Resources and Personnel Administration*	*3 S.H.*
EDLM	*8020*	*Law for the Educator*	*3 S.H.*
EDLM	*8030*	*Public School Finance*	*3 S.H.*
EDLM	*9020*	*Collegial Supervision*	*3 S.H.*
EDLM	*9100*	*Dynamics of Planned Change*	*3 S.H.*
CRAR	*9051*	*Supervising, Directing, and Leading in Arts Education I*	*3 S.H.*
CRAR	*9052*	*Supervising, Directing, and Leading in Arts Education II*	*3 S.H.*
CRAR	*9060*	*Creative Arts Research*	*3 S.H.*
CRAR	*9070*	*Creative Arts Curriculum Development*	*3 S.H.*
EDLM	*9500*	*Free Elective or Thesis*	*3 S.H.*
EDLM	*91XX*	*Practicum/Internship in Leadership Management*	*6 S.H.*
		Total for Degree	***39 S.H.***

Additional Clinical Experience Required for Standard Certification 6 S.H.

Non-Certification Candidates

Students who do not wish to pursue certification may take the core courses in either track plus 6 semester hours of electives for a total of 39 semester hours.

MEd—Educational Leadership and Management: Technology Leader

Graduate Program Chair
Ronald P. Colbert, EdD

Graduate Committee

George F. Bohrer, PhD
Roger Bothwell, EdD
Richard Carlson, EdD
Charles Conroy, EdD
Linda Denault, EdD
Laurie DeRosa, EdD
Michael Fiorentino, EdD
Charles W. Hetzel, PhD
John Judge, MEd
Anthony Luzetti, EdD
John Mara, CAGS
Anne Murray, EdD
Elisabeth Noyes, EdD
Kevin O'Malley, EdD
Edward Roberts, MEd
Harry Semerjian, EdD
Kristyn M. Snyder, JD
Anne Tardanico, MEd

Program Objectives

The MEd in Educational Leadership and Management: Technology Leader Program is designed to provide future leaders in technology to school systems. The technology leader degree track provides an in-depth examination of the implications of the technology revolution that has the potential to transform teaching and learning in our schools. Special emphasis is placed on the key role that technology leaders have in initiating the process of change, technology integration and faculty development. The track includes a variety of opportunity for hands-on technology-based experiences and includes critical core courses in educational leadership and management.

Program Description

The MEd program in Educational Leadership and Management is designed for students with the desire to:

- Gain competence in the use of software applications as productivity and learning tools
- Develop perspective on their daily work by examining the theory and practice of education
- Create models that incorporate the use of technology to support effective teaching and curriculum development
- Explore the use of instructional technology to address contemporary educational issues
- Understand the implication of "digital literacy" for teaching and learning
- Plan for building and maintaining technology infrastructure within a school system.

Admissions Standards and Criteria

To apply for enrollment in the MEd in Educational Leadership and Management: Technology Leader Program, candidates must submit documents as outlined in the Graduate Admissions section as well as:

Program Requirements

A minimum of 36 graduate credits is required to complete the MEd program. The program curriculum consists of:

Program of Study

Required Core Courses

EDLM	*8040*	*Curriculum and Evaluation*	*3 S.H.*
EDLM	*8050*	*Seminar: Research in Educational Leadership*	*3 S.H.*
EDLM	*9100*	*Dynamics of Planned Change*	*3 S.H.*
EDLM	*9020*	*College Supervision*	*3 S.H.*
EDLM	*91XX*	*Practicum/Internship*	*6 S.H.*
		Subtotal	*18 S.H.*

Required Technology Courses

ETEC	*9200*	*Project in Educational Technology*	*3 S.H.*
EDLM	*9002*	*Managing Educational Technology Infrastructure*	*3 S.H.*
		Subtotal	*6 S.H.*

Choose Four Electives in Consultation with Advisor (Samples of Electives)

ETEC	*8700*	*Creating Educational Web Sites*	*3 S.H.*
ETEC	*7600*	*Impact of Technology in Education*	*3 S.H.*
ETEC	*7700*	*A Graphics Approach to Technology*	*3 S.H.*
ETEC	*7800*	*Using the Computer as a Research Tool*	*3 S.H.*
ETEC	*8600*	*Computer and Writing*	*3 S.H.*
		Subtotal	*12 S.H.*
		Total for CAGS	***36 S.H.***

MEd—Early Childhood, Elementary, or Middle School Education

Graduate Program Chairs
Pamela Hill, EdD
George Miller, PhD

Graduate Committee
Ronald Colbert, EdD
Rona Flippo, EdD
Charles Hetzel, PhD
Daniel Nomishan, EdD

Program Objectives

The MEd in Early Childhood Education, MEd in Elementary Education, and the MEd in Middle School Education programs are designed for fully certified teachers who wish to pursue advanced levels of reflection, knowledge, skill, and professionalism. The programs provide a Clinical Track for teachers who hold Provisional Certification with Advanced Standing and are pursuing Standard Certification.

Students with baccalaureate degrees and a liberal arts or science major, but without a Provisional Certification with Advanced Standing may select a 44-45 credit hour dual stage track. Each dual stage track leads to eligibility for Provisional Certification with Advanced Standing and Standard Certification at the level of the selected program, i.e. Early Childhood Education, Elementary Education or Middle School Education.

Program Descriptions

The MEd in Early Childhood Education, MEd in Elementary Education, and the MEd in Middle School Education programs of study enable educators to:

- Think about historical, philosophical, and theoretical perspectives related to current educational issues and practice
- Examine empirical research and engage in the scientific reasoning process
- Acquire and apply advanced knowledge of child development theory and research in the design and implementation of education curricula, practices, and environments
- Acquire knowledge of how children develop as thinkers and learners
- Acquire and apply advanced knowledge of emerging, research based educational principles in the planning, implementation, and evaluation of the educational environment and instructional program
- Become more aware of societal demands on the curriculum as they relate to meeting the diverse needs of students
- Investigate effective educational partnership models, which focus on family strengths, circumstances, and cultural experiences
- Demonstrate effective strategies and techniques for working with diverse populations of students in integrated learning environments
- Examine the shared values, ethics, purposes, and commitments, which bond the educational community
- Acquire a professional orientation of collegiality and support, whereby contributions can be made to the improvement of education through the construction of knowledge and applications

Admissions Standards and Criteria

To apply for enrollment in the Master of Education in Early Childhood Education, Master of Education in Elementary Education or Master of Education in Middle School Education, a student must submit documents as outlined in the Graduate Admission section as well as:

- An official transcript of a Bachelor's degree from an accredited institution (A liberal arts or science undergraduate major is required for the Clinical Tracks.)
- An appropriate teaching certificate (A provisional certificate "with advanced standing" is required for the Clinical Tracks.) Those in dual stage tracks are exempt from this requirement.
- Applicants to NCATE approved graduate programs who do not have provisional with advanced standing certification must submit their score of the literacy portion of the Massachusetts Educator Certification Test as part of their application.

Program Requirements

The Master of Education in Early Childhood Education, Master of Education in Elementary Education, and Master of Education in Middle School Education require that 36 credits be acquired in a suggested sequence within six years or less. The course sequence has been designed to ensure quality and provide flexibility to serve the variety of student interests and professional needs. A program advisor assists each student with the planned sequence, and advises the selection of electives to meet individual goals and interests.

Each program is composed of:

- Five required common core courses
- Three designated specialized courses from the selected discipline of Early Childhood Education, Elementary Education, or Middle School Education
- Four elective courses or, for students in the Clinical Tracks, a Clinical Internship plus two elective courses

Students in the dual stage tracks must complete or demonstrate:

- Prerequisite undergraduate course work which must be completed before starting program courses: General Psychology and Child or Adolescent Psychology
- An additional 8-9 credits of graduate and undergraduate level course work bringing the program totals for these tracks to 44-45 credits
- 75 hours pre-practicum experiences
- 150-300 hour practicum

Retention in the dual stage tracks and admission to the practicum are dependent upon positive vote(s) by the Graduate Curriculum Committee.

Program of Study

Required Core Courses

EDUC	*7300*	*Advanced Child Development (*A)***	*3 S.H.*
EDUC	*7400*	*Contemporary Issues in Education*	*3 S.H.*
EDUC	*7500*	*Curriculum Design and Implementation for Multi-Needs Populations (*A)***	*3 S.H.*
EDUC	*8200*	*Qualitative Reading Assessment and Analysis (*C)*	*3 S.H.*
EDUC	*8300*	*Research in Education (*A)*	*3 S.H.*
		Subtotal	*15 S.H.*

Specialized courses designated within selected discipline and track

Early Childhood Education Program

EDUC	*8250*	*Family Involvement in ECE (*C)*	*3 S.H.*
EDUC	*8450*	*Literacy in Early Childhood Education (*B)***	*3 S.H.*
EDUC	*8500*	*Developmental Assessment in ECE (*C)*	*3 S.H.*

Early Childhood Education Clinical Track

EDUC	*9200*	*Clinical Internship I (*B or C)*	*+3 S.H.*
EDUC	*9201*	*Clinical Internship II (*B or C)*	*+3 S.H.*
		Subtotal	*9 or 15 S.H.*

Early Childhood Education Dual Stage Track Requirements

EDUC	*3100*	*Science, Math, and Social Studies in ECE****	*4 S.H.*
EDUC	*2400*	*Fine Arts in ECE****	*4 S.H.*
EDUC	*9400*	*Practicum I/Early Childhood Education*	*3 S.H.*
EDUC	*9450*	*Practicum II/Early Childhood Education*	*3 S.H.*
		Subtotal	*9 or 15 or 29 S.H.*

Elementary Education Program

EDUC	*8400*	*Literacy in Elementary and Middle School Education (*B)***	*3 S.H.*
EDUC	*8650*	*Advanced Strategies and Approaches for Teaching Critical Thinking in Content Areas (*B)*	*3 S.H.*
EDUC	*8600*	*Advanced Seminar in Child-Centered Issues (*C)*	*3 S.H.*

Elementary Education Clinical Track

EDUC	*9200*	*Clinical Internship I (*B or C)*	*+3 S.H.*
EDUC	*9201*	*Clinical Internship II (*B or C)*	*+3 S.H.*
		Subtotal	*9 or 15 S.H.*

Elementary Education Dual Stage Track Requirements

EDUC	*2750*	*Science in Education****	*+3 S.H.*
EDUC	*3020*	*Teaching Mathematics****	*+3 S.H.*
EDUC	*3500*	*Creative Arts in Elementary Education*	*+3 S.H.*
EDUC	*8360*	*Advanced Social Studies in Education*	*+3 S.H.*
EDUC	*9600*	*Practicum/Elementary Education*	*+3 S.H.*

Middle School Education Program

EDUC	*8150*	*Advanced Assessment, Design and Evaluation of Middle School Curriculum (*B)*	*3 S.H.*
EDUC	*8350*	*Middle School Instructional Strategies and Practices (*B)*	*3 S.H.*
EDUC	*8750*	*Seminar in Early Adolescent Issues (*C)*	*3 S.H.*

Middle School Education Clinical Track

EDUC	*9200*	*Clinical Internship I (*B or C)*	*+3 S.H.*
EDUC	*9201*	*Clinical Internship II (*B or C)*	*+3 S.H.*
		Subtotal	*9 or 15 S.H.*

Middle School Dual Stage Track Requirements

EDUC	*2750*	*Science in Education****	*+3 S.H.*
EDUC	*3020*	*Teaching Mathematics****	*+3 S.H.*
EDUC	*8400*	*Literacy in Elementary and Middle School Education****	*+3 S.H.*
EDUC	*8360*	*Advanced Social Studies in Education*	*+3 S.H.*
EDUC	*9700*	*Practicum/Middle School Education*	*+3 S.H.*

Elective Courses

Students in each discipline and track (with exception of Dual Stage Tracks) elect, with the recommendation of an advisor, a combination of elective credits which serve the individual's interests and complete the 36 semester hour program.

For students in the Clinical Tracks the electives will be selected to ensure that at least two courses in the total program reflect one of the curriculum areas.

For students in the Middle School Education track, four graduate level elective courses in one or more Massachusetts Curriculum Frameworks Content Area(s) must be selected.

Subtotal of Electives	*6 or 12 S.H.*
Total for Degree	***36 S.H.***

(*A) (*B) (*C) indicate sequence suggested to strengthen knowledge, skills, and attitudes.

***Courses requiring pre-practicums in the dual stage track program.*

MEd—General Studies

Graduate Program Chairs
Pamela Hill, EdD
George Miller, PhD

Graduate Committee
George Bohrer, PhD
Michael J. Fiorentino, EdD
Elaine Francis, EdD
Anne Howard, PhD

Program Objectives

The MEd in General Studies in Education is a non-certification degree program designed for individuals who wish to pursue advanced levels of reflection, knowledge, skill, and professionalism in the field of education.

Program Description

It is intended that the individual will continue to develop as a reflective, student-centered individual who is able to effectively articulate and apply educational theory and research in the field of education.

To this end, graduate students will:

- Think about historical, philosophical, and theoretical perspectives related to current educational issues and practices
- Examine empirical research and engage in the scientific reasoning process
- Acquire and apply advanced knowledge, educational theory, and research in the design and implementation of appropriate educational curricula, practices, and environments
- Acquire knowledge of how individuals develop as thinkers and learners
- Acquire and apply advanced knowledge of emerging, research based, educational principles in the planning, implementation, and evaluation of the educational environment and instructional programs
- Become more aware of societal demands on the curriculum as they relate to meeting the diverse needs of individuals
- Investigate educational partnership models which effectively focus on family strengths, circumstances, and cultural experiences
- Demonstrate effective strategies and techniques for working with diverse individuals in integrated learning environments
- Examine the shared values, ethics, purposes, and commitments which bond the educational community
- Acquire an orientation of collegiality and support, whereby contributions can be made to the future improvement of education through the construction of knowledge and its application
- Be prepared to pursue further graduate studies

Program of Study

EDUC	*7400*	*Contemporary Issues in Education*	*3 S.H.*
EDUC	*8300*	*Research in Education*	*3 S.H.*
EDUC	*9500*	*Thesis**	
		**With Program Chair's approval, students may substitute 6 credit action research/internship in lieu of thesis*	*6 S.H.*
		Subtotal	*12 S.H.*
Two of the following three courses:			
EDUC	*7600*	*Impact of Technology in Education*	*3 S.H.*
SPED	*7650*	*Inclusion of Students with Special Needs in Regular Education*	*3 S.H.*
EDUC	*7021*	*Connecting Reading and Writing*	*3 S.H.*
		Subtotal	*6 S.H.*

Goal Areas

In conjunction with the program advisor, individual students will select two goal areas of concentration. **Nine** credits of coursework will be completed in each goal area. These courses will be selected in order to meet the needs and interests of each individual student. Goal areas may include technology, assessment, special education, diversity, literacy, curriculum and instruction, etc.

Subtotal	*18 S.H.*
Total for Degree	***36 S.H.***

No courses below the 7000 level will be accepted toward the program without written approval of the Program chairperson.

MEd—Secondary Education

Graduate Program Chair
Nancy Kelly, PhD

Graduate Committee
George Babich, PhD
Sibyl Brownlee, PhD
Robert Champlin, PhD
Lucy Dechene, PhD
Marilyn McCaffrey, EdD

Program Objectives

The Office of Graduate and Continuing Education offers a generic Master of Education degree for teachers at the secondary level, which does not lead to certification in any area. This program provides teachers with the opportunity to update their knowledge and skills and to participate in courses specific to their professional goals.

Program Description

The MEd program addresses education reform issues and curriculum/development models to meet the needs of today's school systems. The curriculum of the 36 credit degree program is individually planned in consultation with the advisor and provides teachers with the latest effective, research-based practices and technologies to enhance classroom instruction.

Note: The MEd in Secondary Education is currently undergoing curriculum revisions.
Please contact Graduate Program Chair, Dr. Nancy Kelly, for additional information.

MEd—Occupational Education

Graduate Program Chair
Lloyd Harte, EdD

Graduate Committee
Stanley Bucholc, EdD
Robert Kokernak, PhD
Edward Martens, PhD
Steven Therrien, MNS

Program Objectives

The graduate program in Occupational Education is designed for students who have earned a Baccalaureate degree in Technology Education or Vocational Education and want increased awareness and knowledge of current issues and trends in Occupational Education. The program develops an individual's professional competencies in relation to his/her career goals in education and provides advanced study of the principles and practices of educational research.

Program Description

The MEd in Occupational Education Program consists of 36 credits to be completed in a suggested sequence within six years. The course sequence has been designed to ensure quality and provide flexibility to serve the variety of student interests and professional needs. A program advisor assists each student with the planned sequence, and advises the selection electives (12 semester hours) to meet individual goals and interests.

There are three principal sites where the OCED graduate program is offered:

North
Greater Lowell Regional Vocational/Technical High School
Pawtucket Boulevard
Tyngsboro, MA 01879

Central
Assabet Valley Regional Vocational School
Fitchburg Street
Marlborough, MA 01752

South
Bristol Plymouth Regional Vocational/Technical High School
940 County Street
Taunton, MA 02780

Additional Sites
Greater New Bedford Regional Technical High School
1121 Ashley Boulevard
New Bedford, MA 02745

Blue Hills Regional Technical School
800 Randolph Street
Canton, MA 02021

Montachusett Regional Vocational/Technical High School
1050 Westminster Street
Fitchburg, MA 01420

Diman Regional Vocational/Technical High School
251 Stonehaven Road
Fall River, MA 02723

Whittier Regional Vocational/Technical High School
115 Amesbury Line Road
Haverhill, MA 01830

Admissions Standards and Criteria

To apply for enrollment in the Master of Education in Occupational Education program, a student must submit documents as outlined in the Graduate Admission section as well as:

- An appropriate teaching certificate

Program Requirements

The MEd in Occupational Education program consists of 36 credits to be completed in a suggested sequence within six years.

Total credits are divided between:

- Twenty-four semester hours of required courses
- Twelve semester hours of electives designed to allow the vocational educator to develop specific skills relative to his/her career goals

It is recommended that students take OCED 7250: Research and Statistics in Occupational Education, early in the program. All electives must be approved by the program advisor prior to enrollment in the courses.

Program of Study

Required Courses

OCED	*7000*	*History and Philosophy of Occupational Education*	*3 S.H.*
OCED	*7050*	*Seminar in Occupational Education*	*3 S.H.*
OCED	*7100*	*Supervision in Occupational Education*	*3 S.H.*
OCED	*7150*	*Evaluation in Occupational Education*	*3 S.H.*
OCED	*7200*	*Public School Laws Relating to Occupational Education*	*3 S.H.*
OCED	*7250*	*Research and Statistics in Occupational Education* **or**	*3 S.H.*
EDLM	*8050*	*Seminar: Research in Education Leadership*	*3 S.H.*
OCED	*7300*	*Curriculum Development in Occupational Education*	*3 S.H.*
OCED	*7350*	*Public School Finance in Occupational Education*	*3 S.H.*
		Total required courses	***24 S.H.***

Elective Courses (Partial Listing) 12 S.H. Required

OCED	*7400*	*Advanced Methods of Teaching in Occupational Education*	*3 S.H.*
OCED	*7410*	*Organization and Administration of Vocational Guidance*	*3 S.H.*
OCED	*7420*	*Administration of Cooperative Educational Programs*	*3 S.H.*
OCED	*7430*	*Effective Teaching of Special Needs Students in the Vocational Environment*	*3 S.H.*
OCED	*7440*	*Professional Development Workshop*	*2 S.H.*
OCED	*7450*	*Vocational Special Needs Seminar*	*3 S.H.*
OCED	*7600*	*Computer Aided Drafting I*	*3 S.H.*
OCED	*7610*	*Computer Aided Drafting II*	*3 S.H.*
OCED	*7620*	*History of Technology*	*3 S.H.*
OCED	*7630*	*Automated Manufacturing I*	*3 S.H.*
OCED	*7640*	*Automated Manufacturing II*	*3 S.H.*
OCED	*7650*	*Quality Control*	*3 S.H.*
OCED	*7660*	*Material and Process Cost Estimating*	*3 S.H.*
		Total elective credits	*12 S.H.*
		Total for Degree	***36 S.H.***

MEd—Science Education

Graduate Program Chair
George L. Babich, PhD

Graduate Committee
Robert Champlin, PhD
Howard Thomas, PhD

Program Objectives

The MEd in Science Education offers two tracks for students who want to advance their study of Biology and Environmental Science. Track A enhances the skills of certified teachers in Biology and Earth Science. Track B is the non-teaching track, designed to prepare the student for a career in Biology or Environmental Science.

Program Description

The **science teaching track** with a core of three courses provides a solid foundation in science and science education. The certified student's performance is closely monitored by the Graduate advisor and the Graduate faculty in Science Education.

The **non-teaching track** is designed to meet the needs of individuals pursuing specific training in Biology or Environmental Science. The student is prepared for careers in fields ranging from basic research to state environmental agencies. The student works closely with an advisor so that a flexible program is designed to provide the most current scientific information and research technology available within the program.

The student undertakes a solid investigative core based upon two research courses. This is balanced by the course "Science, Ethics, and Technology." Students may work with the advisor and the Graduate Science Curriculum Committee (GSCC) to waive certain required courses or to add supplemental courses provided at other institutions. (Students seeking certification at the secondary level in Biology or Earth Science should apply to the MAT degree programs.)

Admissions Standards and Criteria

To apply for enrollment in the Master of Education in Science Education program, the student must submit documents as outlined in the Graduate Admission section as well as:

- An appropriate teaching certificate (for science teaching track)
- An official transcript of a Bachelor's degree from a regionally accredited institution with a major or minor in biology, earth science, or related field
- The official results of the GRE (Graduate Record Examination)

Program of Study

Track A—Science Education

Required Courses

SCED	*9000*	*Methods in Teaching Biology and Earth Science*	*3 S.H.*
SCED	*9001*	*The Modern Science Curriculum*	*3 S.H.*
SCED	*9002*	*Research in Science Education*	*3 S.H.*
		Subtotal Required Credits	*9 S.H.*

Electives

SCED	*8001*	*Independent Study*	
SCED	*8002*	*Internship*	
SCED	*8003*	*Practicum in Science*	
		Workshops	
		Science Content Courses	
		Science Teaching Courses	
		Related Education Courses	
		Approved Transfer Courses	
		Subtotal Required Electives	*27 S.H.*
		Total for Degree	***36 S.H.***

Track B—Science (Non-teaching)

Required Courses

SCED	*8001*	*Independent Study*	*3 S.H.*
SCED	*9003*	*Science, Ethics and Technology*	*3 S.H.*
SCED	*9004*	*Research in Science*	*3 S.H.*
		Subtotal Required Courses	*9 S.H.*

Electives

SCED	*8002*	*Internship*	
		Workshops	
		Science Content Cluster	
		Approved Related Courses	
		Approved Transfer Courses	
		Thesis	
		Total Required Electives	*27 S.H.*
		Total for Degree	***36 S.H.***

MEd—Special Education

Graduate Program Chairs

Elaine Francis, EdD, Special Needs and Guided Study Program
Anne Howard, PhD, Intensive Special Needs Program

Graduate Committee

Anne May, EdD
Shari Stokes, EdD

Clinical Master's Program

Program Objectives

The MEd in Special Education program is designed to prepare students for careers in teaching children with special needs. The degree offers students preparation in two programs:

- Teacher of Students with Special Needs (formerly Teacher of Children with Moderate Special Needs)
- Teacher of Students with Intensive Special Needs (formerly Teacher of Children with Severe Special Needs)

Program Description

Students must select their plan of study from one of the two programs listed above. Both prepare graduates to:

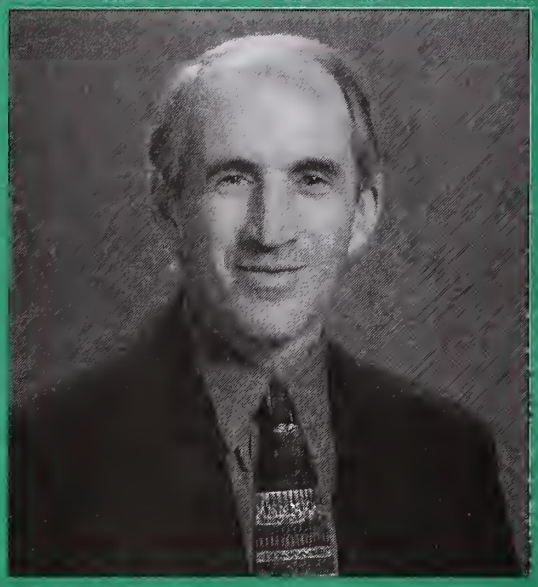
- Demonstrate knowledge of the field of special education, including legislation and litigation that has affected the rights of individuals with special needs
- Demonstrate competence in teaching that leads to success for all children in the least restrictive environment
- Evaluate children to determine their educational needs and to design appropriate programs
- Collaborate with teachers and parents to develop effective teaching strategies that will enhance children's learning
- Demonstrate sensitivity, understanding and respect for children and adults from diverse cultural, religious, ethnic, and racial backgrounds

Admissions Standards and Criteria

To apply for enrollment in the Master of Education in Special Education program, a student must submit documents as outlined in the Graduate Admission section, as well as:

- Applicants to NCATE approved graduate programs who do not have provisional with advanced standing certification must submit their score of the literacy portion of the Massachusetts Educator Certification Test as part of their application.

PROFILE



Michael Fiorentino

Professor, Special Education

Mike has held several faculty and administrative positions at Fitchburg State. He's currently the Chair of the college's Special Education Department. He teaches undergraduate and graduate courses in special education, as well as graduate courses in educational leadership and management. A graduate of FSC with a degree in elementary and special education, Mike also holds a master's degree in special education from Boston University and a PhD in educational leadership and management from UMass/ Amherst. He says he welcomes the chance to provide students with both the theoretical background and the practical experience they will need to become good teachers. He believes he can be a good role model for his students by demonstrating that diligence and hard work, combined with an enjoyment of recreational activities, will create a healthy balance. "My FSC education prepared me very well for graduate school and for an academic career," he says. "The best part of my job has been the opportunity to work with students and help them meet the challenges they face as they enter the teaching field. I really love it!"

MEd—Special Education: Clinical Program

Program Objectives

The Clinical Master's program leads to Standard level teaching certification offered by the Commonwealth of Massachusetts. In October of 1994, the Massachusetts Department of Education implemented a two-stage process for teacher certification. Students gain provisional certification, typically at the undergraduate level, and full certification at the graduate level. Advanced provisional certification can also be obtained by completing prerequisite courses and the first year of the Clinical Master's Program.

Program Description

The Special Education Department has developed an innovative Clinical Master's Program, which integrates theoretical competency with practical application. Students complete course work over a four-semester (two-year) period while concurrently completing field-based requirements. Course content is organized under four strands: Assessment, Curriculum, Strategies and Collaboration. Each semester the course content builds upon the work of previous semesters in the four strands noted above.

Two programs of study are available:

Teacher of Students with Intensive Special Needs

This program prepares graduates to work with students with intensive special needs at all levels.

On an alternating year basis, this program is based at the Merrimack Education Center (MEC) in Chelmsford and at the Massachusetts Bay Community College in Wellesley.

Teacher of Students with Special Needs

Students may choose to work at grade levels Pre-K through 9, or 5-12. Students who complete this program may also receive certification as Elementary Teachers (grades 1-6) with an additional practicum. This program meets at the Fitchburg State College campus.

Information on both Clinical Master's Programs is available through the Special Education Department 978-665-3308. Informational meetings are held at the Special Education Department office on the third Thursday of every month from 4:00–5:00 pm. Call for specific dates.

Program Requirements

Students interested in the Clinical Master's Program may be required to take prerequisite courses depending on their previous course work and/or teaching certificate(s). Prospective students should attend an informational meeting and meet with an advisor from the Special Education Department to determine prerequisite courses that need to be completed. Prerequisite courses include:

- SPED 7004 Working with Individuals with Special Needs
- SPED 8300 Language Development, Differences, and Disorders
- SPED 7020 Modifying and Adapting Curriculum: Math, Science, Social Studies
- SPED 7025 Pedagogy in Reading and Language Arts
- Child/Adolescent Development (Qualifying test available)

In addition, students in the Teacher of Students with Special Needs program are required to take SPED 9000 Research in Special Education prior to beginning clinical coursework.

Program of Study

Teacher of Students with Intensive Special Needs

Required Courses

SPED	*8814*	*Clinical Course Work I*	*6 S.H.*
		Foundations in Assessment, Curriculum, and Program Development; Collaboration to Support Change	
SPED	*8801**	*Fieldwork (Intensive Special Educator)* **or**	*1 S.H.*
SPED	*8861**	*Practicum (Intensive Special Educator)*	*6 S.H.*
SPED	*8824*	*Clinical Course Work II*	*6 S.H.*
		Assessment, Curriculum, Strategies, and Program Development in Functional Domains; Collaboration for Family and Advocacy	
SPED	*8834*	*Clinical Course Work III*	*6 S.H.*
		Assessment, Curriculum, and Strategies re: Language, Physical and Medical Issues and Collaboration for the Educational Team	
SPED	*8862*	*Clinical Experience (Intensive Special Educator)*	*6 S.H.*
SPED	*8844*	*Clinical Course Work IV*	*6 S.H.*
		Assessment, Curriculum Strategies for the Content Areas; Transition from School to Work; Collaboration for Inclusion and Ethical Issues	
SPED	*9000*	*Research in Special Education*	*3 S.H.*
		Electives	*6 S.H.*
		Total for Degree	***40 or 45 S.H.***

Teacher of Students with Special Needs

Required Courses

SPED	*8914*	*Clinical Course Work I: Assessment, Curriculum, Strategies in Reading Language Arts*	*6 S.H.*
SPED	*8901**	*Fieldwork Credit (Special Educator)* **or**	*1 S.H.*
SPED	*8961**	*Practicum (Special Educator)*	*6 S.H.*
SPED	*8924*	*Clinical Course Work II: Assessment, Curriculum, and Strategies for Math/Science*	*6 S.H.*
SPED	*8934*	*Clinical Course Work III: Assessment in Cognition/ Achievement/Transition Curriculum for Social Skills and Affective Development: Strategies for Behavior Management; Collaboration Skills for Inclusion*	*6 S.H.*
SPED	*8962*	*Clinical Experience (Special Educator)*	*6 S.H.*
SPED	*8944*	*Clinical Course Work IV: Legal and Ethical Issues in Assessment: Curriculum Theory and Development; Transition; Collaboration with Families; The Educational Team*	*6 S.H.*
SPED	*9000*	*Research in Special Education*	*3 S.H.*
		Electives	*6 S.H.*
		Total for Degree	***40 or 45 S.H.***

** In year one, students enrolled in the Clinical Master's Program who already hold Standard Certification in any area, or Provisional with Advanced Standing in Special Education take the one semester hour fieldwork credit, all others take the practicum.*

MEd Special Education: Guided Study Program

Program Objectives

The Guided Study program in Special Education was developed to meet the needs of teachers who already hold Special Education certification, and who are interested in further development of their professional skills.

Program Description

All students are required to take three courses that address current issues in Special Education, collaborative skills, and research appropriate for the master's degree: *SPED 9000 Research in Special Education*, *SPED 9280 Consultation and Collaboration Skills*, and *SPED 9400 Current Issues in Special Education*. Students work with an advisor to identify and receive approval for three goal areas that they wish to address through the curriculum offerings.

Program Requirements

Graduates must complete 39 credits for the Guided Study Program. All students complete an internship as part of their plan of study. The internship is designed to allow students to demonstrate acquired skills in an educational setting. Internship plans are developed with the advisors and are submitted to the Special Education Graduate Curriculum Committee for approval.

MEd—Technology Education

Graduate Program Chair
Stanley Bucholc, EdD

Graduate Committee
Lloyd Harte, EdD
Robert Kokernak, PhD
Edward Martens, PhD
Steven Therrien, MNS

Program Objectives

The Master's of Education in Technology (Industrial Arts) Education program leads to standard certification (K-9) (5-12) in the field of technology education.

Program Description

The Master's in Technology Education is a 39-credit program designed to fill the requirements for certification as a Technology teacher and to meet the needs of the practicing teacher with prior preparation and experience. In addition, the program aims to:

- Demonstrate the application of a wide range of knowledge in the area of technology education, including the technologies of manufacturing, communications, construction, power, energy, and transportation
- Prepare teachers to design, implement, and evaluate the most contemporary teaching strategies and approaches in technology education
- Enable teachers to acquire skills in developing and working with tools, machines, and materials
- Explore relationships among technology education, career awareness, math, science, and other fields of knowledge
- Implement unique problem-oriented strategies for diverse and exceptional student populations

Admissions Standards and Criteria

To apply for enrollment in the Master of Education in Technology Education program, a student must submit documents as outlined in the Graduate Admission section as well as:

- An official transcript of a Bachelor's degree from a regionally accredited institution (A liberal arts or science undergraduate major is required for those seeking full certification)
- An appropriate teaching certificate (A Provisional Certificate with Advanced Standing is required for those seeking Standard Certification)
- Applicants to NCATE approved graduate programs who do not have provisional with advanced standing certification must submit their score of the literacy portion of the Massachusetts Educator Certification Test as part of their application.

Program Requirements

The 39-credit program includes:

- Twelve credits of graduate pedagogy
- Fifteen credits of technology knowledge and field applications
- Six credits of professional electives
- Six credits of clinical experience

Program of Study

A. Graduate Pedagogy			
ITEC	*7500*	*Advanced Methods of Teaching at the Secondary Level I*	*3 S.H.*
ITEC	*7550*	*Advanced Methods of Teaching at the Secondary Level II*	*3 S.H.*
EDUC	*8300*	*Research in Education*	*3 S.H.*
ITEC	*8900*	*Curriculum Development for Technology Education*	*3 S.H.*
		Subtotal of Graduate Pedagogy	*12 S.H.*
B. Competence and Field Applications (in the following cluster areas)			
ITEC	*8400*	*Communications in Technology Education*	*3 S.H.*
ITEC	*8500*	*Power and Energy in Technology Education*	*3 S.H.*
ITEC	*8600*	*Manufacturing in Technology Education*	*3 S.H.*
ITEC	*8700*	*Construction in Technology Education*	*3 S.H.*
ITEC	*8800*	*Transportation in Technology Education*	*3 S.H.*
		Subtotal of Competence and Field Applications	*15 S.H.*
C. Clinical Experience			
ITEC	*9500*	*Internship*	*6 S.H.*
D. Professional Electives			**6 S.H.**
		Choose from any industrial technology courses.	
		Total for Degree	***39 S.H.***

Master of Science Programs

MS—Communications/Media

Graduate Program Chair
Randy Howe, EdD

Graduate Committee
George F. Bohrer, Jr., PhD
Helen Obermeyer-Simmons, MFA

Program Objectives

The Master of Science in Communications/Media Degree Program develops the knowledge and skills for the effective implementation of communications media within business, industry, government, not-for-profit agencies, health services and education. Students may choose concentrations in:

- Communications/Media Management
- Technical and Professional Writing
- Media Technology (offered at Rollins Griffith Teacher Center, Dorchester)
- Library Media (offered at Rollins Griffith Teacher Center, Dorchester)

Program Description

Courses are designed to prepare students to effectively function as organizational, financial and strategic leaders of a technological communications/media organization.

- Courses are conveniently offered in the late afternoon and evening to accommodate life-work schedules
- Distance learning opportunities are available for some courses
- The faculty includes experienced communications/media practitioners

Admissions Standards and Criteria

To apply for enrollment in the Master of Science in Communications/Media program, a student must submit documents as outlined in the Graduate Admission section as well as:

- Two or more years of experience with communications/media technology
- A departmental interview and portfolio presentation

Program Requirements

The Master of Science Degree in Communications/Media requires a total of 36 semester credit hours as follows:

- Twelve credit hours required course work in Communications/Media
- Eighteen credit hours as electives from Communications/Media and other departmental offerings at FSC and/or through Rollins Griffith Teacher Center
- Six credit hours as either a practicum or thesis

Program of Study

Required Core Courses for all tracks

COMM	*9010*	*Communications Technology Forecasting*	*3 S.H.*
COMM	*9120*	*Legal and Ethical Issues in Communication*	*3 S.H.*
COMM	*9140*	*Managing Communication*	*3 S.H.*
COMM	*9110*	*Communications Research Methods*	*3 S.H.*
COMM	*9200*	*Practicum* **or**	*6 S.H.*
COMM	*9980*	*Thesis*	*6 S.H.*
		Total required courses	***24 S.H.***

*Communications/Media Management Track**

Objectives

The Communications/Media Management Track is designed to provide knowledge and skills for the effective management of communications/media operations within business, industry, government, non-profit, and health services.

Note: This program utilizes a cohort model and will commence when sufficient enrollment is secured.

Description

Courses in the Communications/Media Management Program are structured to complement and extend the participant's professional skills and experiential base. Faculty collaborate with professionals working in the field organizations and as independent producers to prepare students to function as organizational, financial, technological, and strategic leaders of communications/ media. Specifically, students learn the importance of:

- Developing leadership skills
- Controlling budgets
- Understanding business protocols
- Building a base of support
- Introducing new technologies

Elective Course Offerings, partial listing

COMM	*9020*	*Media Communications Facilities Design*	*3 S.H.*
COMM	*9030*	*Instructional Design and Analysis in Communications/Media*	*3 S.H.*
COMM	*9130*	*Effective Leadership and the Media Manager*	*3 S.H.*
COMM	*9090*	*Interactive Design and Analysis in Communications/Media*	*3 S.H.*
COMM	*9071*	*Managing the Documentation LifeCycle, Part I*	*3 S.H.*
COMM	*9080*	*Managing the Documentation LifeCycle, Part II*	*3 S.H.*
		Total for Degree	***36 S.H.***

*Technical and Professional Writing Track**

Objectives

The Master of Science in Communications/Media technical and Professional Writing Degree Program is designed to provide knowledge and skills necessary to develop print and online communications materials within business, industry, government, and journalistic enterprises.

Note: This program utilizes a cohort model and will commence when sufficient enrollment is secured.

Description

Courses in the Communications/Media Technical and Professional Writing Program are structured to complement and extend the participant's professional skills and experiential base. Faculty collaborate with professional writers, editors, documentation managers, and multimedia designers to prepare and mentor students in developing their communications materials for publication and distribution.

Specifically, students learn the importance of:

- Forecasting communication technology needs
- Researching for publication
- Designing and developing online and multimedia materials
- Designing and developing text-based documentation
- Editing manuscripts for publication
- Managing communications development

Technical and Professional Writing Track Offerings: (partial listing)

COMM	*7000*	*Writing Workshop 1*	*3 S.H.*
COMM	*7500*	*Writing Workshop 2*	*3 S.H.*
COMM	*8300*	*Writing Workshop 3*	*3 S.H.*
COMM	*8400*	*Writing Workshop 4*	*3 S.H.*
COMM	*8500*	*Philosophical Issues in Professional Writing*	*3 S.H.*
COMM	*9090*	*Interactive Design and Analysis in Communications/Media*	*3 S.H.*
		Total for Degree	***36 S.H.***

Media Technology Track (offered at Rollins Griffith Teacher Center, Dorchester)

Objectives

The objective of the Master's Degree in Communications/Media track in Instructional Technology is to equip teachers and interested professionals with the knowledge and skills necessary for the effective development and management of media technology in school settings.

This program is designed to:

- Update teacher's technological skills with innovative curricula and courses
- Build on teacher's curriculum-based knowledge and equip them with skills for presenting information to students in new, innovative and creative methodologies
- Enable teachers to incorporate technology into their classroom curricula
- Assist teachers and other professionals in meeting the requirements for certification as a Unified Media Specialist

Instructional Technology Track Elective Offerings: (partial listing)

COMM	*7020*	*Portable Video Production*	*3 S.H.*
COMM	*7030*	*Graphics for Designing Media*	*3 S.H.*
COMM	*7100*	*Television Studio Production 1*	*3 S.H.*
COMM	*7150*	*Television Studio Production 2*	*3 S.H.*
COMM	*7200*	*Communication and Visual Theory*	*3 S.H.*
COMM	*7250*	*Photography in Education*	*3 S.H.*
COMM	*7253*	*Hyper Text Mark Up Language*	*3 S.H.*
COMM	*8010*	*Organization of Learning Resources*	*3 S.H.*
COMM	*8050*	*Advanced Photography in Education*	*3 S.H.*
COMM	*8100*	*Color Photography in Education*	*3 S.H.*
COMM	*8150*	*Advanced Graphics for Instructional Design*	*3 S.H.*
COMM	*8600*	*Selection and Evaluation of Instructional Materials*	*3 S.H.*
COMM	*9030*	*Instructional Design and Analysis in Comm/Media*	*3 S.H.*
COMM	*9090*	*Interactive Multimedia*	*3 S.H.*
COMM	*9975*	*Clinical Experience*	*3 S.H.*
		Total for Degree	***36 S.H.***

Library Media Track (offered at Rollins Griffith Teacher Center, Dorchester)

Objectives

The Library/Media track of the Master's Degree in Communications/Media equips teachers with training in library and information science, and in media technology.

This program is designed to:

- Develop skills for operating library/media centers
- Provide knowledge of the new information technologies
- Forge selection and utilization competencies for print and non-print media
- Assist educators in meeting the requirements for certification as a School Library Media Specialists.

Library Media Track Elective Offerings: (partial listing)

COMM	*7253*	*HTML: Developing a Third Generation Web Site*	*3 S.H.*
COMM	*8000*	*Administration of School/Library Media Centers*	*3 S.H.*
COMM	*8010*	*Organization of Learning Resources*	*3 S.H.*
COMM	*8030*	*Technology, Media Centers, and Libraries*	*3 S.H.*
COMM	*8250*	*Advanced Studies in Children's and Young Adults' Literature*	*3 S.H.*
COMM	*8600*	*Selection and Evaluation of Instructional Materials*	*3 S.H.*
COMM	*9030*	*Instructional Design and Analysis in Comm/Media*	*3 S.H.*
COMM	*9090*	*Interactive Multimedia*	
COMM	*9975*	*Clinical Experience*	*3 S.H.*
		Total for Degree	***36 S.H.***

Certificate Options

Certificate of Achievement

As an alternative to the full Master's Degree, students completing COMM 9010, COMM 9120, COMM 9140, and COMM 9110, and two additional courses totaling 18 credit hours in Communications/Media Management with a cumulative average of 3.0 or better may be awarded a Certificate of Achievement.

MS—Computer Science

Graduate Program Chair
Robert McGuire, PhD

Graduate Committee
Steven Frechette, MS
William Gauvin, MS
Peter Lucchesi, MS
James Weaver, MS

Program Objectives

The goal of the Master's degree program in computer science is to equip graduates with competitive skills and knowledge to succeed as computer scientists in the constantly developing high-technology marketplace.

About the Department

In 1972, Fitchburg State College was the first state college in Massachusetts to pioneer a Bachelor of Science degree in computer science. The master's degree program was subsequently introduced in 1981.

By 1986 Fitchburg State achieved another first among state colleges in Massachusetts by installing a campus-wide fiber optic-based network. Today, every college building is conveniently connected through a campus wide intranet. Students enjoy the benefits of communicating across campus using the fiber optic-based network and Ethernet as well as across the world via the campus wide access to the Internet.

Program Description

The Master's degree program in computer science is designed for students with the desire to:

- Upgrade and enhance their existing knowledge and skills
- Be on the forefront of emerging technological fields
- Prepare for advanced professional positions
- Initiate new career paths

The master's program specializes in software and hardware engineering, state-of-the-art knowledge, and applied science. Degree candidates study object-oriented systems development, graphics, networking, and other subjects that will enable them to develop marketable technical solutions for the quickly developing information-based society.

Concentrations are designed for computer science graduates, as well as for students and professionals from other disciplines. The college provides flexible programming for the advantage of students who are committed to broadening their education, earning advanced degrees, and improving their careers.

Students with a background in science and technology, whose goals include careers in high technology, should pursue the traditional master's degree program, which emphasizes both hardware and software.

Professionals with limited technical training but a desire to increase their knowledge of specific areas, such as networking and management, should consider the advanced degree program in computer applications software.

Candidates select their course of study based on their knowledge, skills, and experience. A close collaboration between students and the department's graduate advisor as well as other faculty members ensures that individual goals meet with department standards.

Admissions Standards and Criteria

To apply for enrollment in the Master's degree program in computer science, students must submit documents as outlined in the Graduate Admission section as well as:

- An official transcript of a bachelor's degree in computer science, mathematics, or other appropriate area of study from a regionally accredited institution

Computer Resources

Fitchburg State College maintains a wide range of computer systems and current supporting software.

Hardware Platforms include a DEC Alpha, a CDC Cyber 810, and eleven SUN SPARC workstations; a micro-VAX system; and a heterogeneous personal computer network developed by the college. This PC network accesses servers running a variety of operating systems including Windows 95, Windows NT, and UNIX.

Special purposes systems are available for networking, graphics, and other applications.

Programming languages include Assembly, BASIC, C, C++, COBOL, LISP, PASCAL, and PROLOG.

Computer Science students can take advantage of numerous software application packages and large databases available on networks, on optical disks, and through an extensive library of public domain software.

In addition the department's computer systems are networked to the campus Intranet, which includes fiber optics, Ethernet LANs, and a gateway to the Internet.

Program of Study

The college offers fundamental and advanced courses in algorithms, graphics, software development, database development, expert systems, simulations and data communications, and networking. Classes are also available in a variety of computer applications, including modular and object oriented programming.

I. Prerequisite Requirements (Undergraduate)

CSC	*1500*	*Computer Science I*	*3 S.H.*
CSC	*1550*	*Computer Science II*	*3 S.H.*
CSC	*1600*	*Introduction to Electronics*	*4 S.H.*
CSC	*1650*	*Digital Electronics*	*4 S.H.*
CSC	*2500*	*Assembly Language Programming*	*3 S.H.*
CSC	*2560*	*Systems Programming*	*3 S.H.*
CSC	*2600*	*Computer Organization*	*4 S.H.*
CSC	*3100*	*Operating Systems*	*3 S.H.*
CSC	*3600*	*Microprocessors*	*4 S.H.*
CSC	*3700*	*Algorithms and Data Structures*	*3 S.H.*
		Lab/Science	*6 S.H.*
		Mathematics	*12 S.H.*
		Total Prerequisite Courses	***52 S.H.***

II. Graduate Requirements

A. Core Courses (3 or 9 semester hours required)

CSC	*7010*	*Operating Systems Concepts*	*3 S.H.*
CSC	*7100*	*Design and Analysis of Algorithms*	*3 S.H.*
CSC	*7160*	*Software Development in Computer Graphics*	*3 S.H.*
		Subtotal Required Courses	*9 S.H.*

B. Elective Courses

(18 semester hours selected from any elective courses*)

CSC	*7000*	*Programming under UNIX in "C"*	*3 S.H.*
CSC	*7130*	*Simulation Methods I*	*3 S.H.*
CSC	*7140*	*Structured Systems Programming I*	*3 S.H.*
CSC	*7220*	*Structured Design*	*3 S.H.*
CSC	*7250*	*Higher Order Languages*	*3 S.H.*
CSC	*7500*	*Database Design*	*3 S.H.*
CSC	*7510*	*Microprocessor Systems*	*4 S.H.*
CSC	*8000*	*Advanced Systems Programming: UNIX & CII*	*3 S.H.*
CSC	*8010*	*Advanced Operating Systems-Windows NT*	*3 S.H.*
CSC	*8020*	*Data Communications and Networking*	*3 S.H.*
CSC	*8030*	*Systems Reliability*	*3 S.H.*
CSC	*8100*	*Object Oriented Programming in C++*	*3 S.H.*
CSC	*8110*	*Graph Algorithms*	*3 S.H.*
CSC	*8120*	*Local Area Networks*	*3 S.H.*
CSC	*8150*	*Expert Systems*	*3 S.H.*
CSC	*8160*	*Computer Graphics*	*3 S.H.*
CSC	*8180*	*Windows Programming Using MFC*	*3 S.H.*
CSC	*8190*	*UNIX Network Programming*	*3 S.H.*
CSC	*8230*	*Software Tools Under UNIX*	*3 S.H.*
CSC	*8240*	*Compiler Design and Construction*	*3 S.H.*
CSC	*8250*	*Artificial Intelligence*	*3 S.H.*
CSC	*8300*	*Introduction to Ada*	*3 S.H.*
CSC	*8610*	*Measurement and Control*	*3 S.H.*
CSC	*8901*	*Internship***	*1 S.H.*
CSC	*8902*	*Internship***	*2 S.H.*
CSC	*9000*	*Independent Study*	*3 S.H.*
		Subtotal Elective Courses	*18 S.H.*
CSC	*9010*	*Master's Thesis*	*6 S.H.*
		Total for Degree	***33 S.H.***

**Elective courses constantly change as new areas of study develop in this very dynamic field.*

***COOP Program-All students have the opportunity to amplify their classroom training with practical work experience. This is highly recommended for all full time students, students not currently employed in the computer industry, and foreign students not familiar with U.S. work protocols. To participate in this program, a student must be a fully matriculated graduate student with 9 months participation in this program and be in good academic standing. To activate, the student must register under independent study. International students may be eligible for curricular practical training (note Practical Training regulations for F-1 Visa Holder).*

MS—Counseling

Graduate Program Chair
Michael Bloomfield, EdD

Graduate Committee
Cynthia Crosson, MSW, EdD
Carol Globiana, EdD
G. Jefferson Breen, EdD
John M. Hancock, PhD
Lynne Kellner, PhD
Richard J. Spencer, PhD
Graduate Student Representative

Program Objectives

The MS in Counseling program is designed to prepare professional counselors as human development teachers or facilitators whose primary function is to help individuals enhance life adjustment, facilitate personal growth, and expand behavioral competencies so that they can cope more effectively with their environment. Through the program students increase their self-awareness, their sensitivity to others, and their effectiveness as facilitators as they develop skills in counseling.

Program Description

The program is based on a developmental socialization model of intervention, which recognizes that at each developmental stage—infancy, childhood, adolescence, young adulthood, the middle years, and old age-individuals face tasks that can lead to problems needing professional assistance. Counselor education is based on the belief that effective counselors are both personally and professionally integrated. For this reason, a balance between didactic and experiential learning is maintained.

Programs of Study

Marriage and Family Therapy

Prepares professionals in family systems therapy. Students are introduced to and integrated with a variety of family therapy theories, including systematic, structural, strategic, and reflecting a team approach. Course work provides the student with:

- Didactic study of theory
- Practical applications of techniques
- Personal growth as a therapist
- Development of a personal model of family therapy

Courses are taught both at Fitchburg State College and at the LUK Family Institute (LUK, Inc.), an adolescent and family counseling agency in Fitchburg, MA, which offers specialized training and supervision in family systems therapy with emphasis on families with adolescents. This program of study offers students the opportunity to apply for a license as Marriage and Family therapists.

Mental Health Counseling

Prepares professionals for counseling positions in a wide variety of settings. Mental Health Counseling involves the application of the principles of psychotherapy, human development, learning theory, group dynamics, and the etiology of mental illness and dysfunctional behavior. The applications are relevant to individuals, couples, families, and groups for the purpose of treating psychopathology and promoting optimal mental health.

Students take a core of required courses emphasizing generic skills. Additional course work may be directed toward:

- areas of interest such as family counseling, substance abuse, child abuse and neglect, forensic case work, etc., or
- client groups, such as children, adolescents, adults, etc.

This program of study offers students the opportunity to apply for licensure as mental health counselors.

School Guidance Counseling

Prepares professionals for counseling at either the elementary (PreK-9) or secondary (5-12) school levels. Course work centers on preparation to work with children in a school environment with serious emotional, cognitive, and behavioral disorders. In addition, graduates are educated in methods to work effectively with teachers, parents, administrators, nurses, school psychologists, and other members of the school community to assist youngsters to obtain an appropriate education and to participate productively in society.

This program of study offers students the opportunity to apply for Provisional Certification with Advanced Standing as an elementary school (PreK-9) and/or secondary school (5-12) guidance counselor.

Certificate Programs of Study

Adolescent and Family Therapy Certificate

Provides specialized training in family systems therapy. Instruction emphasizes the relationship between the student's own experience with her/his family and clinical work with client families. Students are taught to understand and work with families from a variety of family therapy theories, including systematic, structural, strategic and structural-analytic. In addition, students are taught skills to begin building their own model of family therapy from current models as well as from their personal perspective of being a therapist.

Courses are taught both at Fitchburg State College and the LUK Family Institute (LUK, Inc.).

Child Protective Services Certificate

Provides professionals with specialized training in skills specific to working with:

- Victims of child abuse and neglect
- Abusers
- Families of both the abuser and abused

The certificate in Child Protective Services requires a minimum of two years of study involving a sequence of courses, beginning with the theoretical and finishing with practical applications and a field component.

Substance Abuse Services Certificate

Provides training in skills specific to working with substance abusers, including those with dual diagnoses, and the families of substance abusers. Course work typically spans two years; however, students may elect to extend that time frame or complete the required course work in less time.

Special Status Student

This program of study is designed for professionals who already hold a Master's degree in Counseling or a related field. The program prepares graduates for the opportunity to apply for:

- Licensure as a Marriage and Family Therapist
- Licensure as a Mental Health Counselor or
- Certification as a School Guidance Counselor

A second Master's degree is not awarded through this program of study. Students apply for enrollment through the CAGS in Interdisciplinary Studies Program.

Admissions Standards and Criteria

To apply for enrollment in the MS in Counseling Program, a student must submit documents as outlined in the Graduate Admission section as well as:

- A personal statement (maximum 300 words) describing goals and reasons for applying to the program
- Applicants to school guidance counseling programs of study must submit a passing score in the literacy portion of the Massachusetts Educator Certification Test.

Students are admitted to the college and take Phase I coursework in the program. After the successful completion of the Phase I coursework, students apply for Candidacy in the Graduate Counseling Program.

Candidacy is awarded by the Behavioral Sciences Committee on Graduate Programs based on:

- The successful completion of the undergraduate prerequisites
- The successful completion of the experiential and theoretical aspects of counseling (Phase I course work)
- The successful completion of the Literacy portion of the Massachusetts Educator Certification Test (for the School Guidance Counseling Program of Study)
- The demonstration of competent personal and appropriate ethical behavior
- The demonstration of competent interpersonal skills

Program Requirements

For all programs, students together with their advisors, must plan a program to meet the candidate's career goals. All courses must have advisor approval prior to registration.

I. Undergraduate Prerequisites			***12 S.H.**
		General Psychology	*3 S.H.*
		Developmental Psychology	*3 S.H.*
		Abnormal Psychology	*3 S.H.*
PSY	*5530*	*Applied Statistics for Counselors*	*3 S.H.*

** Undergraduate credits are not figured into degree requirements for Graduate Study.*

II. Graduate Requirements

GRADUATE DIVISION

Marriage and Family Therapy

A minimum of 60 semester hours in required. Students must take:

- Fifty-seven semester hours of required courses including; 12 semester hours of Internship
- Three semester hours of electives

Phase I

PSY	*7010*	*Counseling Theories*	*3 S.H.*
PSY	*7020*	*Group Dynamics*	*3 S.H.*

Phase II

PSY	*7005*	*Mental Health and Family Counseling: Professional Practice, Standards and Ethics*	*3 S.H.*
PSY	*8010*	*Issues in Development: Counseling Children and Adolescents*	*3 S.H.*
PSY	*8020*	*Issues in Development: Counseling Adults*	*3 S.H.*
PSY	*8130*	*Psychopathology I: Diagnosis and Assessment*	*3 S.H.*
PSY	*8190*	*Social and Cultural Foundations: Issues and Diversity*	*3 S.H.*
PSY	*8300*	*Psychological Testing and Assessment: Theory and Practice*	*3 S.H.*
PSY	*8500*	*Counseling Techniques and Case Analysis: Individuals and Families*	*6 S.H.*
PSY	*8750*	*Family Models, Organization and Process I*	*3 S.H.*
PSY	*8755*	*Family Models, Organization and Process II*	*3 S.H.*
PSY	*8950*	*Research and Evaluation*	*3 S.H.*
PSY	******	*Psychology Elective*	*3 S.H.*

Phase III

PSY	*8770*	*Advanced Systemic Intervention I*	*3 S.H.*
PSY	*9087*	*Internship in Marriage and Family Therapy*	*12 S.H.*
PSY	*8780*	*Advanced Systemic Intervention II*	*3 S.H.*
		Total for Degree	***60 S.H.***

Mental Health Counseling

A minimum of 60 semester hours is required. Students must take:

- Fifty-four semester hours of required courses including 12 semester hours of Internship
- Six semester hours of electives

Phase I

PSY	*7010*	*Counseling Theories and Techniques*	*3 S.H.*
PSY	*7020*	*Group Dynamics*	*3 S.H.*

Phase II

PSY	*7005*	*Mental Health and Family Counseling: Professional Practice, Standards and Ethics*	*3 S.H.*
PSY	*8010*	*Issues in Development: Counseling Children and Adolescents*	*3 S.H.*
PSY	*8020*	*Issues in Development: Counseling Adults*	*3 S.H.*
PSY	*8130*	*Psychopathology I: Diagnosis and Assessment*	*3 S.H.*
PSY	*8132*	*Psychopathology II: Treatment and Outcome*	*3 S.H.*
PSY	*8190*	*Social and Cultural Foundation: Issues in Counseling*	*3 S.H.*
PSY	*8215*	*Life Style and Career Development*	*3 S.H.*
PSY	*8300*	*Psychological Testing and Assessment: Theory and Practice*	*3 S.H.*
PSY	*8500*	*Counseling Techniques and Case Analysis: Individuals and Families*	*6 S.H.*
PSY	*8700*	*Group Work and Leadership*	*3 S.H.*
PSY	*8950*	*Research and Program Evaluation*	*3 S.H.*
PSY	******	*Psychology Elective*	*6 S.H.*

Phase III

PSY	*9090*	*Internship in Mental Health Counseling*	*12 S.H.*
		Total for Degree	***60 S.H.***

School Guidance Counseling

A minimum of 48 semester hours is required. Students must take:

- Forty-eight semester hours of required courses, including 9 semester hours of Internship

Phase I

PSY	*7010*	*Counseling Theories*	*3 S.H.*
PSY	*7020*	*Group Dynamics*	*3 S.H.*

Phase II

PSY	*7000*	*School Counseling: Professional Practice, Standards & Ethics*	*3 S.H.*
PSY	*8010*	*Issues in Development: Counseling Children and Adolescents*	*3 S.H.*
PSY	*8100*	*Child Abuse and Neglect and Other Individual Societal Dysfunctions*	*3 S.H.*
PSY	*8190*	*Social and Cultural Foundations: Issues in Counseling*	*3 S.H.*
PSY	*8200*	*Principles of Guidance and Counseling*	*3 S.H.*
PSY	*8210*	*Occupational Information and Career Counseling (For Secondary Certification, 5-12)* **or**	
PSY	*8220*	*Counseling in the Elementary School (For Elementary Certification, Pre-K-9)*	*3 S.H.*
PSY	*8230*	*Working with Individuals with Special Needs*	*3 S.H.*
PSY	*8300*	*Psychological Testing and Assessment: Theory and Practice*	*3 S.H.*
PSY	*8500*	*Counseling Techniques and Case Analysis: Individuals and Families*	*6 S.H.*
PSY	*8950*	*Research and Program Evaluation*	*3 S.H.*

Phase III

PSY	*9085*	*Internship in School Counseling*	*9 S.H.*
		Total for Degree	***48 S.H.***

MS—Criminal Justice*

Graduate Program Chair
To Be Assigned

Graduate Committee
Charles K. Brownlee, JD
Kimberly Faust, PhD
Margot Beth Kempers, PhD
Mary King, EdD
Leonard J. Staples, JD, PhD

Program Objectives

The Criminal Justice program is designed for the criminal justice practitioner either presently employed or seeking employment in the field. Enrollment is also open to students with interest in research, theory, or pre-law.

Note: Enrollment in this program is based on a cohort model. Contact the Office of Admissions for program start date.

Program Description

The degree requires 36 semester hours of course work. Twenty-four credits are fulfilled by the CORE areas, and 12 are fulfilled in a specialized track of study.

The substantive areas of criminology, law enforcement, law adjudication, and corrections are interwoven throughout the three core areas of the curriculum. Specific attention is paid in the core areas of study to issues of diversity, ethical dilemmas and contemporary issues. Each CORE provides the necessary foundation for the subsequent CORE area.

Another component of each student's work is the choice of track course work. Each student selects the track most appropriate to his/her professional goals. Track decisions are made in consultation with the faculty advisor.

Program of Study

CORE I—Foundations

The goal of this integrated first CORE is to explore the theoretical foundations of criminal justice policy and practice.

The CORE I phase of the program consists of six (6) credits that include the following subjects:

CJ	*7220*	*History and Development of Legal Systems*	*20 hrs.*
CJ	*7240*	*Criminal Justice Process*	*35 hrs.*
CJ	*7260*	*Social Relations and the Legal Systems*	*20 hrs.*

CORE II—Applications

The goal of this integrated CORE is to develop a practical knowledge of the inherent complexities and day-to-day operations of the American criminal justice system. This is accomplished by focusing on law and its mechanics; the role of research in criminal justice work; etiology of criminal behavior; system management; and ethical and contemporary issues in the criminal justice profession.

The CORE II phase consists of twelve (12) credits that include the following subjects in Section I and II:

A. Section I

CJ	*8410*	*Criminal Law: Substantive and Procedural*	*37.5 hrs.*
CJ	*8430*	*Research Methods*	*37.5 hrs.*

B. Section II

CJ	*8530*	*Criminology*	*35 hrs.*
CJ	*8540*	*Administrative and Organizational Development*	*20 hrs.*
CJ	*8560*	*Contemporary Issues*	*10 hrs.*
CJ	*8580*	*Ethical Issues in Criminal Justice*	*10 hrs.*

CORE III—Capstone

The Capstone experience gives each student an opportunity to integrate theory and practice by utilizing the knowledge and skills acquired throughout the program. Students participating in the Capstone meet together in seminar classes.

To complete the Capstone experience, each student must choose **one** of the following six-credit options:

- CJ 9820 Internship (300 field hours)
- CJ 9840 Project
- CJ 9860 Thesis

Admissions Standards and Criteria

To apply for enrollment in the Master of Science in Criminal Justice program, a student must submit documents as outlined in the Graduate Admission section, as well as:

- A personal statement (maximum 300 words) or a personal interview. The statement should describe the goals and reasons for applying to this program and include information about previous course work, training or work experiences related to the program.

Specialized Tracks

Each student develops a specialized track of study from the tracks listed below. All tracks are worth 12 credits.

Professional Studies Track

This is an integrated track designed to inform the student about the legal, ethical, and professional implications of situations encountered in the workplace, as well as the dilemmas which they present.

Courses appropriate for this track include but are not limited to:

CJ	*9620*	*Legalities of Criminal Justice Administration*	*3 S.H.*
CJ	*9640*	*Technology and Legal Limitations*	*3 S.H.*
CJ	*9660*	*Professional Issues: Liabilities and Challenges*	*3 S.H.*
CJ	*9680*	*Cultural Diversity and Communication*	*3 S.H.*

Individualized Studies Track

This track allows the student to pursue academic and professional areas of interest on this campus as well as at other institutions. Some or all of the twelve semester hours of course work may be taken off-campus and transferred into the program. Prior approval of the faculty advisor is required for the development of this track.

Management Track

This track, designed by the Business Administration Department, is intended for the student who is particularly interested in applying management theory and practice to criminal justice administration. Prerequisites may be required.

MGMT	*9040*	*Organizational Behavior and Development*	*3 S.H.*
MGMT	*9050*	*Management of Human Resources*	*3 S.H.*
MGMT	*9080*	*Management Theory and Process*	*3 S.H.*
MGMT	*9320*	*Labor Management*	*3 S.H.*

Forensic Case Work Track

This track informs students about the nature of the offender and offenses, the systems that treat and manage the offender, issues and interventions in case work, and the legal and ethical issues that confront professionals in the system

Students may qualify to apply this course work toward a Certificate in Forensic Case Work Studies offered through the Department of Behavioral Sciences. Prerequisites may be required.

The track courses are:

PSY	*8172*	*Criminal Psychopathology*	*3 S.H.*
PSY	*8175*	*Treatment Issues and Interventions in Forensic Case Work*	*3 S.H.*
PSY	*8174*	*Systems, Law and Issues in Forensic Case Work*	*3 S.H.*

One elective from the following courses or coursework approved by the faculty advisor:

PSY	*8100*	*Child Abuse and Neglect*	*3 S.H.*
PSY	*8120*	*Sexual Abuse of Children and Adolescents*	*3 S.H.*
PSY	*8140*	*Alcohol Abuse and Other Addictive Disorders*	*3 S.H.*
PSY	*8176*	*Mental Status Examination*	*1 S.H.*

Child Protection Studies Track

This track informs students about the impact of childhood abuse and neglect, and sexual abuse on those who become involved in the criminal justice system. The student will learn to recognize and treat the effects of abuse. The student also examines how her/his own experiences affect the manner in which she/he works with victims and perpetrators of abuse and neglect. Prerequisites may be required.

PSY	*8100*	*Child Abuse and Neglect, and other Individual/Societal Dysfunctions* **or**	*3 S.H.*
PSY	*8120*	*Sexual Abuse of Children and Adolescents*	*3 S.H.*
PSY	*8150*	*Case Management Treatment of Victims*	*6 S.H.*
PSY	*8160*	*Psychology and Treatment of Offending Behavior*	*3 S.H.*

Counseling Studies Track

This track informs students about the theory and practice of counseling through experiential, group, and traditional course work. Prerequisites may be required.

PSY	*7010*	*Counseling Theories*	*3 S.H.*
PSY	*7020*	*Group Dynamics*	*3 S.H.*
		Two electives (with advisor approval)	*6 S.H.*

Students will choose 6 semester hours from the following course offerings:
(or course work approved by the faculty advisor)

PSY	*8010*	*Issues in Development: Counseling Children and Adolescents* **or**	*3 S.H.*
PSY	*8020*	*Issues in Development: Counseling Adults*	*3 S.H.*
PSY	*8060*	*Psychology of Women: Counseling Implications*	*3 S.H.*
PSY	*8100*	*Child Abuse and Neglect, and other Individual/Societal Dysfunction*	*3 S.H.*
PSY	*8120*	*Sexual Abuse of Children and Adolescents*	*3 S.H.*
PSY	*8130*	*Psychopathology I: Diagnosis and Assessment*	*3 S.H.*
PSY	*8140*	*Alcohol Abuse and other Addictive Disorders*	*3 S.H.*
PSY	*8180*	*Legal and Ethical Issues in Counseling*	*3 S.H.*
PSY	*8710*	*Family and Systems, Models and Interventions*	*3 S.H.*

MS—Nursing (Specialty: Forensic Nursing)

Graduate Program Chair
Andrea Wallen, EdD, RN

Graduate Committee
Barbara S. Cammuso, PhD, EdD, RNCS
Robert Dumas, PhD, RN
Sophia Harrell, EdD, RN
Eleanor Tumbull, PhD, RN

Non-Nursing Faculty

Community Representative

Graduate Student Representative

Program Objectives

The Master of Science in Nursing degree program is designed for registered nurses who wish to pursue advanced leadership positions in the community and the health care system. The graduate is prepared to contribute to the development of nursing science, to the improvement of health care, and to pursue doctoral study.

Program Description

Through course work and clinical experience, graduates are prepared to:

- Base advanced professional practice on the concept that humankind are unique, interacting, multidimensional beings
- Use nursing practices to guide care for a specialized client population
- Demonstrate competence in the advanced practice role
- Actively promote professional standards, ethics, and legal principles in nursing and health care
- Use a variety of strategies to influence policy-making relating to societal health needs
- Assume leadership roles with health care consumers and providers to improve the planning and delivery of health care
- Contribute to the advancement of nursing knowledge through validation and/or extension of research findings
- Integrate theories and advanced knowledge into clinical practice and professional decision-making
- Demonstrate commitment to the evolving profession of nursing

The specialty in Forensic Nursing prepares nurses to apply:

- Knowledge and skills of nursing and forensic science to the investigation of trauma concurrently with emergency care and emotional support for victims of violent crime
- The nursing process to public or legal proceedings
- Aspects of health care to the scientific investigation and treatment of trauma
- Sensitivity to the health needs and concerns of diverse populations as a clinical nurse specialist
- Direct services such as legal documentation to individual and group clients, including insurance companies and law firms
- Consultation and education for groups, related agencies, and communities
- Expert witness skills in investigations related to violence and trauma
- Skills for varied settings, including emergency health services, schools, correctional facilities, varied community health agencies, employee assistance programs in occupational health settings and law enforcement agencies

Note: *This program is offered on a cohort basis, next admission is fall of 2001.*

Admissions Standards and Criteria

To apply for enrollment in the Master of Science in Nursing program, a student must submit documents as outlined in the Graduate Admission section as well as:

- An official transcript as a graduate of an accredited baccalaureate nursing program
- Three letters of recommendation including documenting a minimum of one year of recent successful clinical practice or part-time equivalent
- A license as a RN in Massachusetts (or indication of intent to apply for same)
- Written personal statement of career goals

Program of Study

The program is currently planned on a part-time, two-year calendar through evening, weekend, and/or summer courses. The course sequence is flexible, but is designed to:

- Complete a majority of core nursing courses with the exception of the Scholarly Inquiry requirement prior to or concurrent with any clinical specialty nursing course
- Support the clinical specialty nursing courses through prerequisite cognate courses
- Cap the program with a practicum where enrollees also apply the research component

It should be noted that nursing courses and required cognates may have prerequisite undergraduate or graduate course work.

Program Requirements

A. Core Nursing Courses

NURS	*7000*	*Nursing With Diverse Populations*	*1 S.H.*
NURS	*7200*	*Nursing Theory*	*3 S.H.*
NURS	*7300*	**Advanced Clinical Concepts*	*3 S.H.*
NURS	*7400*	*Contexts and Roles for Advanced Practice*	*3 S.H.*

Scholarly Inquiry Requirement

NURS	*7700*	*Nursing Research*	*3 S.H.*
NURS	*9000*	*Research Project* **or**	*2 S.H.*
NURS	*9010*	*Research Thesis*	*3 S.H.*
		Subtotal	*15 or 16 S.H.*

B. Required Cognates in the Forensic Nursing track

CJ	*8410*	*Criminal Law: Substantive and Procedural*	*3 S.H.*
CJ	*9640*	*Technology and Legal Limitations*	*3 S.H.*
		Subtotal	*6 S.H.*

C. Required Nursing Courses in the Forensic Nursing track

NURS	*8000*	*Introduction to Forensic Nursing*	*3 S.H.*
NURS	*8100*	**Scientific Foundations for Forensic Nursing Interventions*	*3 S.H.*
NURS	*8200*	**Forensic Nursing: Caring for Victims and Perpetrators I*	*3 S.H.*
NURS	*8300*	**Forensic Nursing: Caring for Victims and Perpetrators II*	*3 S.H.*
NURS	*9500*	**Practicum in Forensic Nursing*	*3 S.H.*
		Subtotal	*15 S.H*
		Total for Degree	***36 or 37 S.H.***

** These courses have a clinical component.*

Certificate Programs

Adolescent and Family Therapy Certificate

Program Objectives

The program provides specialized training and supervision in adolescent and family therapy. This certificate is offered in affiliation with the Adolescent and Family Institute of Luk, Inc.

Program Description

A minimum of 21 semester hours over two years of study is required. Students must take a sequence of required courses including 6 semester hours of Internship. All courses taken must have advisor approval prior to registration.

Admissions Standards and Criteria

To apply for enrollment in the Adolescent and Family Therapy Certificate Program, a student must submit documents as outlined in the Graduate Admission section as well as:

- A personal statement (maximum 300 words). The statement should describe your goals and reasons for applying to this program and include information about previous course work, training or work experiences related to the program. It should also discuss specifically the strengths you bring and the areas of competencies you need to develop.
- MAT/GRE/GMAT exams not required

Program of Study

Undergraduate Prerequisite Courses

General Psychology
Abnormal Psychology
Developmental Psychology

Phase I			
PSY	*7005*	*Mental Health and Family Counseling: Professional Practice, Standards and Ethics,* **or**	*3 S.H.*
PSY	*8710*	*Family and Systems, Models and Interventions,* **or**	*3 S.H.*
PSY	*8740*	*Systems Theory*	*3 S.H.*
PSY	*8750*	*Family Models, Organizations and Process I*	*3 S.H.*
Phase II			
PSY	*8755*	*Family Models, Organizations and Process II*	*3 S.H.*
PSY	*8770*	*Advanced Systemic Intervention I*	*3 S.H.*
PSY	*8780*	*Advanced Systemic Intervention II*	*3 S.H.*
Phase III			
PSY	*9075*	**Internship in Counseling*	*6 S.H.*
		Total for Certificate	***21 S.H.***

** Internship sites are carefully selected from agencies which have extensive treatment programs in adolescent and family therapy.*

Child Protective Services Certificate

Program Objectives

Provides specialized training for professionals in skills specific to working with the victims of child abuse and neglect, with abusers and with the families of both.

Program Description

A minimum of 21 semester hours over two years is required. Students must take a sequence of required courses including 6 semester hours of Internship. Internship sites are carefully selected from agencies which have existing abuse treatment programs and experienced staff for supervision.

All courses taken must have advisor approval prior to registration.

Admissions Standards and Criteria

To apply for enrollment in the Child Protective Services Certificate Program, a student must submit documents as outlined in the Graduate Admission section as well as:

- A personal statement (maximum 300 words). The statement should describe your goals and reasons for applying to this program and include information about previous course work, training or work experiences related to the program. It should also discuss specifically the strengths you bring and the areas of competencies you need to develop.
- MAT/GRE/GMAT exams not required

Program of Study

Phase I			
PSY	*8100*	**Child Abuse and Neglect, and Other Individual/Societal Dysfunctions* **or**	
PSY	*8120*	**Sexual Abuse of Children and Adolescents*	*3 S.H.*
PSY	*8150*	*Case Management and Treatment of Victims (two semesters: spring and summer I)*	*6 S.H.*
Phase II			
PSY	*8160*	*Psychology and Treatment of Offending Behavior*	*3 S.H.*
PSY	*8170*	*Family Treatment with Abusive/ Neglectful Families*	*3 S.H.*
Phase III			
PSY	*9070*	*Internship in Child Protection*	*6 S.H.*
		Total for Certificate	***21 S.H***

** The introductory course (Child Abuse and Neglect, and Other Individual/Societal Dysfunctions or Sexual Abuse of Children and Adolescents) is open to Child Protective Services students as well as the college and the community. After taking this course students pursuing the certificate are required to make a commitment to finish the program in order to take the remaining courses.*
** Students who can document 3,000 hours of experience working directly with child abuse and neglect may elect to take an examination to waive the introductory course.*

Communications/Media Certificate Program

Program Objectives

The Communications/Media Certificate Program is designed to provide knowledge and skills for the effective development and management of communications/media operations within business, industry, government, and health services.

Admissions Standards and Criteria

To apply for enrollment in the Communications/Media Certificate Program, a student must submit documents as outlined in the Graduate Admission section as well as:

- Two or more years of experience in communications/media production
- A departmental interview and portfolio presentation
- MAT/GRE/GMAT exams not required

Program of Study

The Communications/Media Certificate Program required courses are offered in the following paired sequence:

COMM	*9010*	*Communications Technology Forecasting*	*3 S.H.*
COMM	*9110*	*Communications Research Methods*	*3 S.H.*
COMM	*9120*	*Legal and Ethical Issues in Communication*	*3 S.H.*
COMM	*9140*	*Managing Communication*	*3 S.H.*
		Elective Coursework	*6 S.H.*
		Total for Certificate	***18 S.H.***

Certificate of Achievement

Students must complete the 18 credit hours required course work in Communications/Media.

Early Intervention Certificate Program

Program Objectives

The program has been developed to meet the Department of Public Health Certification requirements for Early Intervention Specialists. Effective in 1998, this certification is required for early intervention specialists.

Program Description

Early Intervention is a program sponsored by the Massachusetts Department of Public Health. Students who study early intervention learn to help parents of children with special needs from birth to age three to recognize and understand their child's particular developmental needs and teach them ways to help their child grow.

Early intervention specialists work with children from birth to three who are premature, have feeding, vision, or hearing problems; are slow to sit up, stand, walk, talk, or do things for themselves; have behavior or attention difficulties; or were born with a disability or health condition that affects their development. Also, the early intervention specialist works with the families of children who have an established biological or environmental risk for developmental delay.

As part of a team, the early intervention specialist works with the family to determine what type of developmental help would be most beneficial for the child. Together they establish an Individual Family Service Plan (IFSP) that specifies all the educational, training, therapy, and support services the family will receive to best help the child.

Admissions Standards and Criteria

To apply for enrollment in Early Intervention Certificate Program, a student must submit documents as outlined in the Graduate Admission section as well as:

- Complete Child Psychology and an introductory course in Special Needs
- MAT/GRE/GMAT exams not required

Program Requirements

This certificate program combines twelve credits of course work and six practicum credits. The course work may be taken in any sequence. All coursework must be completed before the practicum.

Program of Study

SPED	*6600*	*Early Intervention*	*3 S.H.*
SPED	*8140*	*Screening and Assessment of at Risk Infants and Toddlers*	*3 S.H.*
SPED	*7950*	*Physical and Medical Aspects of Working with Children with Disabilities*	*3 S.H.*
SPED	*9200*	*Collaboration Skills for Teachers* **or**	
EDUC	*8250*	*Family Involvement in Early Childhood Education*	*3 S.H.*
SPED	*8900*	*Early Intervention Practicum*	*6 S.H.*
		Total for Certificate	***18 S.H.***

Educational Technology Certificate Program

Program Objectives

This program offers educators and administrators the necessary skills to utilize computer technology in the practice of teaching and program administration. This program stresses the use of the computer as both a teaching tool and as a means to examine curricula and teaching effectiveness.

Admissions Standards and Criteria

To apply for enrollment in the Educational Technology Certificate program, a student must submit documents as outlined in the Graduate Admission section.

- MAT/GRE/GMAT exams not required

Program of Study

A total of 15 semester hours of designated credits must be earned and a cumulative average of 3.0 maintained in the program to be eligible for the certificate. This program may be applied to any of the Master's degree or CAGS programs in Education.

Course Requirements

ETEC	*7600*	*Impact of Technology on Education*	*3 S.H.*
ETEC	*7700*	*A Graphics Approach to Technology*	*3 S.H.*
ETEC	*7800*	*Using the Computer as a Tool for Thinking Skills*	*3 S.H.*
ETEC	*8600*	*Computers and Writing*	*3 S.H.*
ETEC	*9200*	*Project in Educational Technology*	*3 S.H.*
		Total for Certificate	***15 S.H.***

Fine Arts Director Certificate Program

Program Objectives

The program is designed for those responsible for the supervision of fine arts programs or teachers moving into such areas of responsibility.

Admissions Standards and Criteria

To apply for enrollment in the Fine Arts Director Certificate program, a student must submit documents as outlined in the Graduate Admission section.

- MAT/GRE/GMAT exams not required

Note: Applicants should either be certified to teach in one of the arts areas or hold a position as director of an arts area in a K-12 school.

Program of Study

The Fine Arts Director Certificate Program consists of four graduate courses. Applications are invited from individuals holding a valid Teaching Certificate in one of the arts areas.

The certificate program courses may be applied toward the CAGS Program in Educational Leadership and Management or the MEd in Arts Education.

Certificate Courses

CRAR	*9051*	*Supervising, Directing and Leading in Arts Education I*	*3 S.H.*
CRAR	*9052*	*Supervising, Directing and Leading in Arts Education II*	*3 S.H.*
CRAR	*9060*	*Creative Arts Research*	*3 S.H.*
CRAR	*9070*	*Creative Arts Curriculum Development and Application*	*3 S.H.*
		Total for Certificate	***12 S.H.***

Forensic Case Work Certificate Program

Program Objectives

The Forensic Case Work Certificate Program provides specialized training to professionals in the fields of criminal justice, mental health, or social services.

Program Description

Course work concentrates on:

- The nature of the offender and offense
- The designated systems that treat or otherwise manage the offender
- Issues and interventions in case work
- The legal and ethical issues that confront the workers in the systems

Admissions Standards and Criteria

To apply for enrollment in the Forensic Case Work Certificate program, a student must submit documents as outlined in the Graduate Admissions section as well as:

- An official transcript of a bachelor's degree from an accredited institution in human services or a related field
- A personal statement (maximum 300 words). The statement should describe your goals and reasons for applying to this program and include information about previous course work, training or work experiences related to the program. It should also discuss specifically the strengths you bring and the areas of competencies you need to develop.
- MAT/GRE/GMAT exams not required

Program Requirements

A minimum of 21 semester hours over two years of study, is required. Students may elect to extend that timeframe or complete the required course work in less time. There are 50 hours of course-related field practica and 150 clock hours of Internship included in the program. Students may choose either the certificate alone or the certificate in conjunction with a Master's degree in Counseling-Mental Health.

Program of Study

Undergraduate Prerequisite Courses

General Psychology
Introduction to Sociology
Abnormal Psychology
Introduction to Human Services (this course may be waived if the student is working or has worked in a human services or forensic casework facility.)

Phase I			
PSY	*8100*	**Child Abuse and Neglect, and Other Individual/Societal Dysfunctions* **or**	
PSY	*8120*	**Sexual Abuse of Children and Adolescents*	*3 S.H.*
PSY	*8172*	*Criminal Psychopathology*	*3 S.H.*
Phase II			
PSY	*8140*	*Alcohol Abuse and Other Addictive Disorders*	*3 S.H.*
PSY	*8174*	*Systems, Laws and Issues in Forensic Case Work*	*3 S.H.*
PSY	*8175*	*Treatment Issues and Intervention in Forensic Case Work*	*3 S.H.*
PSY	*8176*	*Mental Status Examination*	*1 S.H.*
		Elective Course Work	*2 S.H.*
Phase III			
PSY	*9065*	*Internship in Forensic Case Work*	*3 S.H.*
		Total for Certificate	***21 S.H.***

**Students must take at least one of these two courses. If comparable courses have been taken at the undergraduate level, the student may apply to her/his advisor to have them credited to this certificate program.*

Forensic Nursing Certificate Program

Program Objectives

This program provides an opportunity for advanced practice nurses who hold a master's degree in nursing from accredited programs to acquire specialization in forensic nursing. Forensic nursing is the application of nursing science to public or legal proceedings and the integration of the forensic aspects of health care with the bio-psycho-social education of the professional nurse. Students are prepared to deal with the prevention, scientific investigation, and treatment of victims of trauma and/or death as well as the investigation and treatment of perpetrators of abuse, violence, criminal activity, and traumatic accidents.

Program Description

The student in forensic nursing:

- is cross-trained in the principles and philosophies of nursing science, forensic science, and criminal justice
- assumes a mutual responsibility with law enforcement agencies and the courts in protecting the legal, civil, and human rights of victims of violent crimes, as well as the rights of perpetrators

Admissions Standards and Criteria

To apply for enrollment in the Forensic Nursing Certificate Program, a student must submit documents as outlined in the Graduate Admissions section as well as:

- An official transcript of a Master's degree in Nursing from an NLN-accredited program
- Three letters of recommendation documenting a minimum of one year of recent successful clinical practice or part-time equivalent
- A Massachusetts RN license (or indication of intent to apply for the same)
- Written personal statement of career goals

Program Requirements

The program consists of five specialized courses in forensic nursing and a minimum of three related courses from the behavioral sciences, chemistry and criminal justice departments for a total of 22 credits. Four of the nursing courses contain a clinical/laboratory component, including a more extensive practicum.

Program of Study

A. Required cognates in the Forensic Nursing track			
CHEM	*7000*	*Criminalistic: Forensic Chemistry*	*3 S.H.*
One of the following courses:			
CJ	*8410*	*Criminal Law: Substantive and Procedural*	*3 S.H.*
PSY	*8174*	*Systems, Laws and Issues in Forensic Case Work*	*3 S.H.*
		Subtotal	*6 S.H.*
B. Required nursing courses in the Forensic Nursing track			
NURS	*8000*	*Introduction to Forensic Nursing*	*2 S.H.*
NURS	*8130*	*Scientific Foundations for Forensic Nursing Interventions*	*3 S.H.*
NURS	*8200*	*Forensic Nursing: Caring for Victims and Perpetrators I*	*3 S.H.*
NURS	*8300*	*Forensic Nursing: Caring for Victims and Perpetrators II*	*3 S.H.*
NURS	*9500*	*Practicum in Forensic Nursing*	*3 S.H.*
		Subtotal	*14 S.H*
		Total for Certificate	***20 S.H.***

Professional Mentoring for Teachers Certificate Program

Program Objectives

This Program provides teachers who wish to further their professional development through graduate course work an opportunity to develop attitudes and skills related to the role of a professional mentor.

Program Description

Through required courses and a mentoring internship, teaching professionals begin developing collegiality in relation to their profession and become more skilled in the areas of communication, peer consultation and leadership, reflection, problem solving, and evaluation.

Admissions Standards and Criteria

To apply for enrollment in the Mentoring for Teachers Certificate program, a student must submit documents as outlined in the Graduate Admissions section as well as:

- An appropriate teaching certificate
- MAT/GRE/GMAT exams not required

Program Requirements

The program includes course work which may, with the permission of an appropriate advisor, provide elective credits suitable for an MEd program in which the student is matriculated. Nine of the course credits are credits required of the CAGS in Teacher Leadership. With appropriate advising and planning, these credits can be applicable to such a CAGS program.

Program of Study

EDUC/ SPED	*9010*	*The Adult Learner*	*3 S.H.*
EDLM	*9020*	*Collegial Supervision*	*3 S.H.*
SPED	*9200*	*Consultation Strategies*	*3 S.H.*
EDUC	*9360*	*Mentoring Internship: Program Design, Management, and Evaluation*	*3 S.H.*
		Electives (e.g. EDLM 9100, SPED 7650)	*3 S.H.*
		Total for Certificate	***15 S.H.***

Note: Students must have completed the three required courses prior to participating in EDUC 9360 Mentoring Internship.

School to Career Specialist Certificate

Program Objectives

The school to Career Specialist certificate program is designed to:

- Provide STC personnel with a base knowledge of the Federal Legislation, Massachusetts comprehensive plan, and the requisite program components.
- Prepare professionals to develop, implement and sustain the school-based learning and work based learning, and connecting activities components in their schools.
- Enable specialists to acquire and use strategies for developing industry, business and community partnerships relating to school to career goals.
- Provide competencies relative to student mentoring, career assessment, portfolio development, job shadowing, and establish and operate work based learning experiences for students away from the school setting.
- Provide the opportunity, through clinical internship, to develop and implement components of a STC program in the public school setting.

Admission Standard and Criteria

An applicant for enrollment in the school to Career Specialist certificate program at Fitchburg State College is required to submit documents as outlined in the Graduate Admissions section as well as:

- an appropriate teaching or administrator certificate

Program Description

This 15-credit program is offered in the evening, in the summer, and during special scheduled sessions to allow interested professionals maximum access. The coursework and clinical experience requirements are delivered and supervised by graduate and qualified adjunct faculty. Practica are offered and supervised during the regular public school day and calendar.

The School to Career Specialist (STC) Certificate Program provides practicing school professionals with the base knowledge of the school to career movement, a working knowledge of the requisite components of a school program, the competencies to develop and operate a STC school component, and the techniques necessary to evaluate and sustain a quality program. It provides qualified school personnel with the ability to develop and implement three key elements of a school to career program, namely: school based learning, work based learning and connecting activities, in compliance with the School to Work Opportunities Act (STWOA).

Program of Study

A. Legislation and school to career movement

ITEC/PDEV 8050	*School to Career Components Seminar*	*1 S.H.*
ITEC/EDLM 8100	*STWOA Federal Legislation & State Plan*	*2 S.H.*

B. Knowledge Base

ITEC/EDLM/ EDUC 8250	*School to Career in the Public School Curriculum*	*3 S.H.*
ITEC/PDEV 8300	*Developing STC Industry/Business/Community Partnership*	*3 S.H.*
ITEC/PDEV 8350	*Career assessment, Mentoring, Portfolios, and Coordination of Work-Based Learning Experiences*	*3 S.H.*

C. Application to Practice

ITEC/EDLM 9400	*School to Career Clinical Internship*	*2 S.H.*
	Total for Certificate	***15 S.H.***

Substance Abuse Services Certificate

Program Objectives

Provides specialized training in skills specific to working with substance abusers, including those with dual diagnoses, and the families of substance abusers.

Admissions Standards and Criteria

To apply for enrollment in the Substance Abuse Services Certificate program, a student must submit documents as outlined in the Graduate Admissions section as well as:

- A personal statement (maximum 300 words). The statement should describe your goals and reasons for applying to this program and include information about previous course work, training or work experiences related to the program. It should also discuss specifically the strengths you bring and the areas of competencies you need to develop.
- MAT/GRE/GMAT exams not required

Program Requirements

A minimum of 21 semester hours over two years of study is required. Students may elect to extend that timeframe or complete the required course work in less time. There are 50 hours of course-related field practica and 150 clock hours of Internship included in the program.

Program of Study

Undergraduate Prerequisite Courses

General Psychology
Introduction to Sociology
Abnormal Psychology
Introduction to Human Services (This course may be waived if the student is working or has worked in a human services or in a substance abuse facility.)

Phase I			
PSY	*8140*	*Alcohol Abuse and Other Addictive Disorders*	*3 S.H.*
PSY	*8142*	*Intervention and Rehabilitation Services for Substance Abusers*	*3 S.H.*
Phase II			
PSY	*8143*	*The Impact of Alcohol Abuse and other Addictive Disorders on Family Systems*	*3 S.H.*
PSY	*8144*	*Case Management in Substance Abuse Services*	*3 S.H.*
PSY	*8148*	*Counseling the Substance Abuser*	*3 S.H.*
		Elective Course Work	*3 S.H.*
Phase III			
PSY	*9072*	*Internship in Substance Abuse Services*	*3 S.H.*
		Total for Certificate	***21 S.H.***

Graduate Course Descriptions

Fitchburg State College Course Numbering System

Undergraduate courses are numbered 1000-5999

Graduate courses are numbered 6000-9999

a. 6000-level numbers are reserved for In-service and updating courses.

b. Numbers 7000-9999 are assigned graduate courses (higher course numbers imply higher level courses).

Note: Course descriptions of all undergraduate and graduate courses can be obtained from the Office of the Registrar.

Waivers of listed course prerequisites, where granted, do not constitute waiver of required core courses or total program credit hours.

Biology

Biology of Mammals

BIOL 7001 ***3 cr.***

This course is an investigation of the evolution and present biology of mammals involving extensive use of native New England species. Laboratory work includes identification of mammal species from skins, skulls, and tracks. Field trips enhance familiarity with what is learned in the classroom. The course involves four hours of lecture/laboratory plus additional hours for field trips.

Freshwater Biology

BIOL 7003 ***3 cr.***

A field study course designed to study aquatic ecological systems. Daily field trips are taken to the lakes, ponds, streams, and rivers in the Fitchburg area to collect water samples and specimens. Laboratory analysis is conducted to determine the physical and chemical properties of the water and to identify and study the organisms.

Biology of the Brain and Behavior

BIOL 7005 ***3 cr.***

This course focuses on the biological bases of behavior. A variety of media including lectures, journal articles, and films are used to study ethology, psychology, neurobiology and genetics in an attempt to understand the mechanisms underlying behavior.
Prerequisite: one semester of any of the following: General Biology, General Psychology, Anatomy and Physiology or Instructor's permission.

Medical Parasitology

BIOL 7006 ***3 cr.***

The course examines the biology of medically important animal parasites. Lectures emphasize clinical considerations, such as life cycles, modes of transmission, epidemiology, symptomatology, and treatment. Additionally, methods of collection and identification are explored.

Ecology

BIOL 7007 ***3 cr.***

The dynamic relationship between organisms and their environment is investigated in this survey of major ecological concepts and methodology. Field and laboratory work emphasize problem identification, formulation of hypothesis, data collection, and analysis and interpretation of results in terms of biological implications.

Winter Botany

BIOL 7008 ***3 cr.***

A comprehensive study of plants in winter designed to discover plant adaptations for survival during the cold season. Field trips are taken to observe and identify trees and herbaceous plants in winter conditions. Lectures and indoor labs are included.

Summer Field Botany

BIOL 7200 ***3 cr.***

A field study of trees, shrubs, fungi, mosses, and herbs found in New England. Daily field trips to collect plants and daily laboratory work facilitate the study of ecology and taxonomy of plants.

Evolution

BIOL 7300 ***3 cr.***

An introduction of the principles governing the evolution of living organisms. Emphasis is placed on the cause and affect relationship of various biological disciplines on the evolutionary process. A survey of paleontological evidence demonstrates how evolutionary principles have influenced life.
Prerequisites: undergraduate course in botany or zoology, ecology, and genetics.

Bioethics

BIOL 7400 ***3 cr.***

The purpose of this course is to communicate the process of ethical reasoning in conjunction with Biological science. Students gain an understanding of how cooperation between those concerned with the results of biological research and the makers of public policy must become a working hypothesis. Through an examination of the current literature, students uncover facts and general principles of bioethics and relate their near and long term consequences to moral positions.

Advanced Methods of Teaching at the Secondary Level I

BIOL 7500 ***3 cr.***

This course combines academic study with clinical practice and supervision. It focuses on learning theory and research-based effective instructional practices. Theories and topics to be studied, demonstrated, and practiced include learning styles, critical thinking, computer applications, and inclusive learning environments. Emphasis is placed on integrating culturally or linguistically diverse students and those with special needs. Interdisciplinary course development and implementation, student assessment including portfolio assessment, and writing are studied for utilization across the curriculum. Teacher/student interaction, communication, and collaboration skills, including use of family and community resources, are applied to advance student outcomes and enhance the teaching/learning process. Through teacher reflection techniques and feedback received from peers and supervisors, students continually improve their teaching/learning process. *Prerequisite: EDUC 7012 or provisional certification with advanced standing.*

Advanced Methods of Teaching at the Secondary Level II

BIOL 7550 ***3 cr.***

This course is a continuation of BIOL 7500. *Prerequisites: BIOL 7500, BIOL 8260.*

Marine Biology

BIOL 7600 ***3 cr.***

This course examines physical, chemical, and biological factors in the marine environment. The dominant animals and plants in salt marsh, sand beach, tide pools, and a rocky inter-tidal area are investigated. Data on physical and chemical conditions is collected and correlated with the composition, behavior, and physiology of the flora and fauna within each habitat. Saturday or Sunday field trips supplement lectures.

Independent Study

BIOL 8002 ***3 cr.***

The Independent Study provides an opportunity for Biology students to work independently on the development of a written work, a science curriculum, a job related document, or some other activity agreed upon by the student and the graduate faculty advisor. The final product of this study is a written or otherwise permanent documentation of the study completed.

Practicum

BIOL 8003 ***6 cr.***

The practicum provides an opportunity for students to gain teaching experience in area schools and in the college campus school Practicum experience is designed to meet the State requirements for advanced provisional teacher certification.

Practicum

BIOL 8090 ***6 cr.***

Student teaching experience is offered to give practical classroom experience to those degree students who have not satisfied the state requirements for certification.

Curriculum and Technology

BIOL 8250 ***3 cr.***

This course looks at the integration of educational technology in the classroom, and its relationship to learning theories. Mac and IBM computer hardware, and interfaces for classroom inquiry including video and microscope cameras, digital image capture, scanners, and computer projection panels are examined. Students learn similarities between standard software programs available for writing, computation, and data analysis. It includes a survey of software for studies, ranging from Encyclopedias on CD-ROM to programs that are specific to the study of various topics in science, art literature, math, and language. The class explores the use of the internet as a classroom resource, the hardware and software necessary to get on line, search engines, browsers, URLs, online journals, education web sites, online interest groups, and how to design a web page.

Curriculum Design and Development

BIOL 8260 ***3 cr.***

This course is designed to provide students with knowledge and skills of the curriculum development-revision process. In collaborative groups students review, revise and expand the curriculum and assessment procedures in order to integrate current research findings and education reform initiatives. Students articulate a general Curriculum map contextually appropriate for grade-level content as they plan for integrating content with social, behavioral, processing, thinking skills and Curriculum frameworks. Students design an integrated 9-12th grade curriculum that aligns content standards across disciplines. Finally, interdisciplinary groups design an integrated curriculum unit.

Research in Biology

BIOL 9004 ***3 cr.***

Research is carried out in a specific field of Biology that involves an in-depth exploration of a well-defined problem. The student must develop a hypothesis for the possible solution to the problem; develop the experimental technique to test the hypothesis; and develop a logical conclusion based upon the data collected. The final product is a written documentation of the research and results. Each study is done under the supervision of graduate faculty.

Thesis in Biology

BIOL 9010 ***3 cr.***

Students will conduct a research project which will result in a thesis. This thesis will be developed under the supervision of a thesis advisor and a thesis committee of at least three people.

Seminar in Biology

BIOL 9011 ***3 cr.***

This course is designed to prepare students for research careers. Topics covered are hypothesis formation, experimental design, literature searches, and quantitative methods. Emphasis is placed on student participation and evaluation of each topic. A final research proposal is required of each student.

Special Topics
BIOL 9100 ***3 cr.***
Course content varies from semester to semester, reflecting contemporary issues in the discipline and depending upon student and faculty interest.

Clinical Experience
BIOL 9400 ***6 cr.***
The Clinical Experience is a capstone course allowing full integration and application of content knowledge and pedagogical theory and practice. In a high school classroom students incorporate all standards specific to the discipline in which certification is sought as well as all common standards for classroom teachers. A minimum of 400 clock hours or one full semester on-site under the auspices of the college is fulfilled. A research project is completed during the duration of the clinical experience.

Internship
BIOL 9500 ***6 cr.***
The Internship is a capstone experience allowing full integration and application of content knowledge and pedagogical theory and practice. Within the individual's classroom it incorporates all standards specific to the discipline in which certification is sought as well as all common standards for classroom teachers. A minimum of 400 clock hours or one full semester on-site under the auspices of the college is fulfilled. A research project is completed during the duration of the internship.

Communications/Media

Portable Video Production and Non-Linear Video Editing
COMM 7020 ***3 cr.***
Process-oriented course with emphasis on selection, operation, and use of current portable equipment designed for instructional use. Emphasis on setting up and operating video and audio equipment for classrooms, small ITV studios, location shooting, and postproduction for preparation of instructional software.

Graphics for Designing Media
COMM 7030 ***3 cr.***
Basic course applying the elements of graphic design to the development of learning resources. Students apply their acquired graphic skills to prepare overhead transparencies, visuals for display, and other graphic materials in instructional settings.

Slide-Sound Production
COMM 7050 ***3 cr.***
Instruction in presentation techniques of projected imagery; emphasis on 35mm slide/tape and super 8mm film animation. Instruction in basic operation of the appropriate equipment and adaptation of the product for effective instruction. Students must supply film.

Television Studio Production I
COMM 7100 ***3 cr.***
Process-oriented course with emphasis on setting up. Operating and maintaining radio and television production equipment. Students will be involved in production of a half-hour show to be cablecast on Channel A-3, A-8, A-22 in Boston.

Television Studio Production II
COMM 7150 ***3 cr.***
Process-oriented course designed to make students proficient in production of TV programming with stress upon being able to make, obtain & setup necessary props, background, trick camera shots and sound effects. Emphasis on advanced skill development and color production as a team. Students will learn to integrate good television programming into school-based curriculum and to use television as an instructional tool.

Communication and Visual Theory
COMM 7200 ***3 cr.***
Exploration of the theoretical constructs underlying all visual expression with particular emphasis on projected imagery. Activities include applying theory through design and producing visual statements in a variety of media for the classroom.

Photography in Education
COMM 7250 ***3 cr.***
Basic course offering instruction camera handling, film exposure and development, production, mounting, display, and evaluation of prints. A skills course with applications for teachers, media specialists, and others interested in use of the photographic medium. Students must have access to an adjustable camera. Students are responsible for film, paper, and chemicals.

HTML: Developing a Third Generation Web Site
COMM 7253 ***3 cr***
Process-oriented course covering basic HTML (hyper text markup language), emphasizing the use of CGI scripts and forms to create customized and interactive web pages. The course will touch on some of the newest features of HTML, such as tables, that bring HTML into the real publishing world.

Administration of School Library/Media Centers
COMM 8000 ***3 cr.***
Presents topics dealing with library/media services, planning centers and program management, developing and presenting budgets, record keeping, selection and acquisition of equipment and materials, computerization, and other basic management considerations that align and organize themselves with the daily operation of school library/media centers.

Organization of Learning Resources
COMM 8010 ***3 cr.***
Broad view of the organizational facet of the media center; varied patterns of organizing, arranging, cataloging and classifying learning resources (print and non-print). The use of printed aids and commercial services, the central cataloging center, acquisition, patterns of shelving and related problems of distribution.

Technology, Media centers and Libraries
COMM 8030 ***3 cr.***
Explores new technologies and their impact on schools, media centers and libraries. Students will use the latest cataloging and circulation programs, videodisc technology, on-line services, bulletin boards, CD-ROM and facsimile machines.

Advanced Photography in Education
COMM 8050 ***3 cr.***
Assumes knowledge of basic photographic principles with emphasis on control of the medium. Topics include exposure, metering, darkroom techniques, and print manipulation. Discusses educational applications, design and composition, and critical evaluation of work.

Color Photography in Education
COMM 8100 ***3 cr.***
Color course offering instruction in all basic aspects of color printing whether you intend to work with color negatives or color slides. Students must have access to an adjustable camera. Students are responsible for film, paper and chemicals.

Advanced Graphics for Instructional Design
COMM 8150 ***3 cr.***
Advanced course applying the elements of graphic design, copy-fitting and printing procedures to the development learning resources. Students apply their acquired graphic skills to prepare overhead transparencies, visual for display, and other graphic materials in instructional settings.

Advanced Portable Video Production
COMM 8200 ***3 cr.***
Advanced ITV production course which supplement skills developed in prior production classes. Use of sophisticated program planning procedures and production/postproduction techniques. Emphasis on advanced skills development and color production as a team.

Advanced Studies in Childrens' and Adults' Literature
COMM 8250 ***3 cr.***
Survey of literature for children and young adults (print and non-print) including wide reading books and introduction to authors, illustrators and other media creators. Explores the nuanced ways in which language of a literary text is communicated. Centers on a close analysis of literature, poetry, short stories and novels for children and young adults.

Writing Workshop IV
COMM 8400 ***3 cr.***
These four courses (COMM 7000, COMM 7500, COMM 8300, COMM 8400) are individualized writing tutorials in which students work on their own projects under the direction of a writing instructor. Students, in discussion with the instructor, propose topics of interest and develop them to publishable form. Depending upon the student's interest, topics may focus on technical communication, science journalism, or appropriately related nonfiction (essays or books). Upon completion of the workshop sequence, students should have a suitable manuscript(s) ready for publication.

Philosophical and Rhetorical Issues in Professional Writing
COMM 8500 ***3 cr.***
This course examines critical philosophical issues inherent in technical and professional writing. Adopting a historical approach, the application of various philosophical stances to the roles of jargon, syllogism, enthymeme, objectivity/subjectivity, logical proof, deconstruction and error will be examined.

Selection and Evaluation of Instructional Materials
COMM 8600 ***3 cr.***
Reviews types of learning resources (print and non-print) found in the library media center with relation to their use, tools and criteria for selection and evaluation. Includes related background reading, developing a selection policy and planning and building a balanced collection.

Topics
COMM 9000 ***3 cr.***
Course content varies from semester to semester, reflecting contemporary issues in the discipline and depending upon student and faculty interest.

Communications Technology Forecasting
COMM 9010 ***3 cr.***
This course assesses new technologies and potential applications within communications/media and prepares students for long-range planning. Students examine digitization and new imaging, video technology, interactive and multimedia systems, wireless networks, groupware, desktop technology, and satellite communications. In addition students develop forecasts for their organizations using techniques such as The Delphi Survey, Trend Extrapolation, Relevance Trees, and Network Analysis.
Prerequisite: COMM 9110

Media Communications Facilities Design
COMM 9020 ***3 cr.***
A study of structural, technological, human, and environmental parameters required for comprehensive design specifications for new or renovated facilities as applied to media production and/or utilization. Students become familiar with blueprint reading, power requirements, electrical distribution, low voltage networking, heating and air conditioning, lighting, ergonomic design, OSHA and other safety codes and requirements. Emphasis is placed on analyzing vendor proposals and contracts.

Instructional Design and Analysis in Communications/Media
COMM 9030 ***3 cr.***
The course introduces the design of educational and training programs and prepares students to conduct needs and task analyses, write measurable objectives, select appropriate media and delivery systems, and evaluate effectiveness of results.

Managing the Documentation Life Cycle, Part I
COMM 9071 ***3 cr.***
A study of internal communications problems associated with the design and development of information products. Students analyze documentation teams, DOC plans, corporate style guides, government and military standards, and interpersonal work style preferences for their impact on the documentation life cycle.

Managing the Documentation Life Cycle, Part II
COMM 9080 ***3 cr.***
A study of external communications problems associated with the design and development of information products. Examines document design, document maintenance, editing and production problems, desktop publishing, online documentation, and interactive communications systems for their impact on the document life cycle.

Interactive Design and Analysis in Communications/Media
COMM 9090 ***3 cr.***
A presentation of organizational structure and teamwork requirements and their impact on timeline demands of various multimedia designs. Analysis of project objectives for designs and paradigms of interactive formats is conducted for presentations, training, marketing, and kiosks. Students survey hardware and software options for addressing project needs.

Communications Research Methods

COMM 9110 ***3 cr.***

An examination of the various research tools and methodologies used in the communications field to produce a viable thesis proposal. Students are familiarized with methods of content analysis, audience research, needs assessment, and the use of statistical procedures to quantify value and variable measurement. The value of research conducted by others is recognized as a tool in conducting one's own research.

Legal and Ethical Issues in Communication

COMM 9120 ***3 cr.***

The course analyzes fiscal issues such as financial control systems, budgeting, promotional strategies, direct marketing, capital maintenance, amortization, contracting for services, taxes, total quality management (TQM), and managing by objectives. Students observe how the changes in national and international business relationships impact the media industries. In addition the ramifications of instant information on communications, and trends such as downsizing, outsourcing, and networking are explored. Lastly, students become familiar with legal issues, such as copyright, contracts, releases, royalties, video publishing, unions, multimedia, and ownership.

Effective Leadership and the Media Manager

COMM 9130 ***3 cr.***

The course provides a perspective on the internal politics, legal regulations, and organizational strategies for communicating vertically, horizontally, and diagonally within an organization. Students examine issues pertaining to corporate culture; diversity in the workplace; principles and legal regulations regarding hiring, firing, promoting, and disciplining employees; managing successful meetings; and conflict management.

Managing Communications

COMM 9140 ***3 cr.***

The course presents the principles of formulating persuasive strategies for creating written, electronic, and mediated communications. Students become familiar with current computing hardware, software, accessories, interfaces, and applications helpful to the media manager for presentation purposes.

Practicum in Communication

COMM 9200 ***6 cr.***

A practical experience in which students apply knowledge and skills in a real-life problem-solving situation. Students receive first-hand experience in identifying the problem, setting the parameters, planning for the application of human and technological resources, and evaluating the outcome. A mediated oral presentation of the project is made to the sponsoring organization and to the graduate advisor.

Prerequisite: COMM 9110 and permission of Advisor.

Thesis in Communication

COMM 9980 ***6 cr.***

An empirical study of a proposition stating the relationship between two or more concepts, phenomena, or events. This critical analysis focuses on a current or potential problem or practice facing managers of business, industry, government, and health service media centers. The study includes a research procedure for the tabulation, statistical analysis, and interpretation of numerical data.

Prerequisites: permission of Advisor and COMM 9110.

Computer Science

*Asterisk indicates that the course is offered infrequently.

Programming under UNIX in C

CSC 7000 ***3 cr.***

An advanced level programming course exploring the 'C' language. Students are expected to be familiar with two other programming languages and data structures. Special emphasis is placed on I/O in the UNIX environment.

Prerequisite: CSC 2560.

Operating Systems Concepts

CSC 7010 ***3 cr.***

This course discusses the following major functional components of modern operating systems: File Systems, CPU scheduling, Memory Management, Virtual Memory, Secondary Memory Management, Concurrency, and Security. The student also explores three current Operating Systems (including Windows-NT, OS/2, IBM's VM, DEC's VMS, and UNIX) as well as future Operating Systems in light of the functional components listed above.

Prerequisite: CSC 3100, CSC 8180.

Design and Analysis of Algorithms

CSC 7100 ***3 cr.***

This course discusses the complexity of algorithms and covers the following topics: mathematical algorithms, sorting and searching techniques, string processing, geometric algorithms, graphs and networks. The classes of belonging to classes P, NP, NP-complete are discussed.

Prerequisite: CSC 3700.

*Simulation Methods I

CSC 7130 ***3 cr.***

The use of the computer as an extension of analytical techniques for systems is studied. Students explore the theory of queuing and stochastic process as applied to system description and performance prediction. A comparison of discrete system simulation languages is made. Simulation methodology, including generation of random numbers and variates, design of simulation models of discrete systems, analysis of data generated by simulation experiments, and validation of simulation models and results, is included.

Structured Systems Programming I
CSC 7140 ***3 cr.***

The course demonstrates the application of structured programming to the construction of system programs, in particular, compilers. The course begins by summarizing the structured programming style and notations to be used. The course work continues with the development of compiler for minipascal up to and through semantic analysis. The generation of object codes is studied in a succeeding course.
Prerequisite: CSC 7010 or CSC 7100.

Software Development in Computer Graphics
CSC 7160 ***3 cr.***

This course presents an in-depth introduction to state-of-the-art interactive computer graphics algorithms with emphasis on the GKS standard. 2-D and 3-D viewing, clipping, and geometric modeling are studied along with raster extensions and mathematical algorithms.

Structured Design
CSC 7220 ***3 cr.***

This course is designed to provide students with practical experience and a set of tools for the development and implementation of software systems. All phases of a software development cycle are covered. The student is instructed as to the terms and methodology needed to participate in an active project. All projects are developed in C. A review of C is conducted that spans basic data types to reusable and complex data structures made available by C.
Prerequisite: experience in software development equivalent to an undergraduate degree in Computer Science.

Higher Order Languages
CSC 7250 ***3 cr.***

Students study several higher order languages, including Pascal, Prolog, and APL, with an emphasis on the structures of the languages. An appreciation of the fundamental similarities and differences among the languages, in which semantics are more significant than syntax, is developed. Typical applications suitable for each language are given. Applications revealing the weaknesses of a particular language are also considered.
Prerequisites: two higher order languages.

Database Design
CSC 7500 ***3 cr.***

This course covers concepts of database systems in general and relational database systems in particular. A theoretical foundation for the database field concepts of SQL, database design, entity/relationship model, and data protection is studied. As part of the course, students are required to design and implement a database.

Microprocessor Systems
CSC 7510 ***4 cr.***

This course studies 16-bit and 32-bit architecture, hardware, software, interrupts, and memory organization. In addition, instruction repertories, "pipe-lining", virtual addressing, cache organization, link structures, and data transfer modes are included in study.

Advanced Systems Programming: UNIX & C II
CSC 8000 ***3 cr.***

This advanced level programming course explores the C Language. Students are expected to be familiar with two other programming languages and data structures. Special emphasis is on I/O in the UNIX environment.
Prerequisite: CSC 7000.

Advanced Operating Systems-Windows NT
CSC 8010 ***3 cr.***

This course emphasizes multi-user modern operating systems, file management, scheduling, methods of memory management, virtual memory, and future techniques in parallel processing.
Prerequisite: CSC 7010.

Data Communications and Networking
CSC 8020 ***3 cr.***

The first third of the course deals with data communications concepts and terminology. The course then covers the structure of modern multi-layer protocols, for example, IBM's SNA and other comparable ISO standards (X.25 et al); the design of store and forward networks, such as the historic ARPANET and its commercial variants TELENET and TYMENET; and the operation of local area networks of both the base band (ETHERNET) and the broadband (MITRENET, WANGNET) variety.
Prerequisite: CSC 3400.

System Reliability
CSC 8030 ***3 cr.***

This course discusses issues regarding system reliability, particularly as computer systems become more complex and the potential for problems increase. Students study the wide range of effects system faults generate. Course topics include: defining system reliability and availability; the impact of system downtime; reliability of system design; and methods to prevent downtime, as implemented in both hardware and software.

Object Oriented Programming in C++
CSC 8100 ***3 cr.***

This course is designed to introduce the student to the field of Object Oriented Programming (OOP) by focusing on the C++ programming language. This complex and emerging language is presented in conjunction with the Object Oriented Programming and Object Oriented Design paradigms. The student is exposed to readings of current literature on the subject in addition to programming assignments to reinforce these principles.
Prerequisite: it is expected that the student is proficient in the C programming language.

Graph Algorithms
CSC 8110 ***3 cr.***

This course covers some of the basic graph algorithms used to solve real problems that arise frequently in computer science. The topics covered are: definition and representation of graphs, shortest path problems, depth first and breadth first search and their applications, minimum spanning trees, network flows and graph connectivity, planarity, traversibility, coverings and colorings, plus other topics, if time permits.
Prerequisite: CSC 3700.

Local Area Network
CSC 8120 ***3 cr.***

The purpose of this course is to study new techniques in the theoretical design of local area networks, as well as to gain practical experience in the installation, maintenance, and management of LAN networks. The course includes the study of at least four different network systems, such as Novell, Windows-NT, UNIX, and NFS. Furthermore, SNMP management techniques are also investigated.
Prerequisite: an undergraduate course in Networking or CSC 8020.

Expert Systems

CSC 8150 ***3 cr.***

This course studies the techniques used to develop expert systems. Knowledge representation schemes and the languages utilizing those schemes are analyzed. Students review several classical expert systems and discuss the current state of the art. Contrasts are made among procedure-oriented languages.

Prerequisites: two high level programming languages.

Computer Graphics

CSC 8160 ***3 cr.***

This course is a continuation of Computer Graphics I, CSC 7160. The course covers state-of-the-art raster algorithms for polygon handling, including filling and clipping. Then, an extensive study of the mathematics of 3-dimensional projective geometry is conducted.

Prerequisite: CSC 7160.

Windows Programming using MFC

CSC 8180 ***3 cr.***

This course focuses on the development of Windows application. The Windows application program interface is used to create a file browser application. Concepts such as Dynamic Data Exchange (DDE) and Multiple Document Interface (MDI) are reviewed. Students create their own C-based window application program, which includes dialog boxes, pull down windows, and icons.

UNIX Network Programming

CSC 8190 ***3 cr.***

This course is designed for experienced C programmers who have little or no previous network programming experience. The course introduces Ethernet, the TCP/IP family of protocols, sockets, virtual circuits, datagram circuits, and programming concepts. Students are required to complete regular programming exercises as well as a final project in C under the UNIX platform. The BSD socket interface is used in the course, and others, including the Transport Layer Interface and Remote Procedure calls, are discussed.

Prerequisite: familiarity with UNIX and knowledge of C Programming.

Software Tools Under UNIX

CSC 8230 ***3 cr.***

This course provides an overview of the UNIX operating system. The student learns how to use high-level utilities as well as program debugging tools and system level utilities. Multi-user interaction is explored. Students are strongly encouraged to be familiar with at least one high-level programming language.

Compiler Design and Construction

CSC 8240 ***3 cr.***

This course explores the theory of compiler design, including lexical analysis, syntax analysis, and code generation. Grammar and language are reviewed, and the basic trade-offs in compiler construction are explored. A simplistic language expressed in BNF is used to construct portions of a compiler using recursive descent.

Prerequisite: CSC 8140.

Artificial Intelligence

CSC 8250 ***3 cr.***

This course studies computer vision, speech understanding, natural language understanding, machine learning, and expert systems. Classical results in each area are presented, and the state-of-the-art is indicated. Also studied are problem solving techniques and search philosophies.

Introduction to Ada

CSC 8300 ***3 cr.***

This course provides an introduction to Ada language—a modern general-purpose programming language that meets the needs of large system developers and, as such, embodies many advanced software engineering features. Topics include: the software crisis, history of Ada, concepts and goals, statements, subprograms, packages, generic packages, and tasks. The course requires students to run and modify existing program units and to design, develop, and test program and/or library units, and to apply "tool kit" packages and generic packages.

Prerequisite: Working knowledge of a high-level programming language and data structures.

Measurement and Control

CSC 8610 ***4 cr.***

A detailed study of electro-mechanical and semiconductor sensors. Students examine transducers (temperature, pressure, strain, biomed, acoustic), A/D and D/A conversion, signal processing, PCM encoding and recording, radio telemetry, and microprocessor interfacing. The course includes lab work to demonstrate the basic principles of sensor operations as well as application techniques. Students undertake projects to illustrate microprocessor control over measurement systems. The course stresses student circuit design and hard-wired implementation of circuits to be used as building blocks for a modular data acquisition system.

Independent Study

CSC 9000 ***3 cr.***

The Independent Study provides the opportunity for students to explore computer science independently of a classroom. The Study must be planned and approved by the graduate advisor.

Master's Thesis

CSC 9010 ***6 cr.***

Students conduct a research project resulting in a thesis. Thesis develops under the guidance of a thesis advisor and committee. Thesis must be developed and presented according to the guidelines set forth by the college and the department.

Creative Arts

Creative Teaching
CRAR 8140 ***3 cr.***
This course applies creative problem solving techniques and the arts to other content areas of the curriculum.

Celebrating Diversity through the Arts
CRAR 8145 ***3 cr.***
The course is a study of methods used for balancing Euro-centric cultural backgrounds; celebrating cultural diversity through the arts; building respect and understanding through cultural grid systems; creating harassment-free learning environments; teaching without gender bias; understanding, discussing, and preventing classroom sexism, racism, anti-Semitism, and homophobia.

Arts Technology in the Classroom
CRAR 8146 ***3 cr.***
This lab experience provides professional development in the Arts Technologies. Emphasis is placed on integrating these exciting tools into varied learning. Topics include both Visual Arts and Music applications such as digitized images, digital sound, scanners, synthesizers, video overlay card, MIDI laser discs, sequencers, and sound design. This course is a must for educators from all disciplines and levels. No prior technology expertise required.

Advanced Graduate Studio
CRAR 8150 ***3 cr.***
The building "blocks": value, alternation, shape, balance, dominance, graduation, depth and focal point are used to develop a personal method of application that will allow the student to make self diagnosis, prognosis and treatment of their own maladies in their works of art to allow for successful completion of their own intentions in their art works.
Prerequisite: Approval form the Graduate Program Chair.

Dance in Education
CRAR 8350 ***3 cr.***
An exploration of the field of creative movement and structured dance forms. Students learn applications for working with children through movement and are encouraged to seek personal dance experiences.

Art and Human Development
CRAR 8500 ***3 cr.***
This course is applicable to students who are in human services fields, including diverse groups teachers, social workers, recreation directors, religious educators, and others. Students use hands-on activities to demonstrate how concepts and practices are learned and to facilitate students' needs.

Supervising, Directing, and Leading in Arts Education I
CRAR 9051 ***3 cr.***
The course involves discussions about inter-departmental and interdepartmental relations, faculty development, grants, community relations, the diversity of a community, the needs of exceptional learners, and other administrative concerns.

Supervising, Directing, and Leading in Arts Education II
CRAR 9052 ***3 cr.***
The course involves of discussion of such topics as the efficient and humane use of personnel, finance, curriculum, and physical resources. The evaluation and supervision of programs and personnel is also covered.

Creative Arts Research
CRAR 9060 ***3 cr.***
Studies include an inquiry into the role of the creative process in education and the arts, as well as the integration of the arts in education. Research into the cultures of various community groups and the inclusion of exceptional learners in the educational process are considered.

Creative Arts Curriculum Development and Applications
CRAR 9070 ***3 cr.***
This course is designed to help aspiring leaders understand how to develop and implement systemic K-12 fine arts curriculum, instruction, and assessment.

Arts Presentation
CRAR 9090 ***3 cr.***
Students create a culminating project after completing at least eighteen semester hours in the degree.
Prerequisite: CRAR 9070.

Criminal Justice

CORE I

Foundations
CJ 7200 ***6 cr.***
Students must register for this six credit CORE which includes the following modules of study:

History and Development of Legal Systems
CJ 7220
This area of study develops student awareness of the historical foundations of American legal philosophy and the legal system. An understanding of the relationship of law and government as well as the court system and the Constitutional rights of individuals under this system is gained.

Criminal Justice Process
CJ 7240
This area of study explores the organization and function of the criminal justice system.

Social Relations and the Legal System
CJ 7260
This course explores law as a social process that is both a source of order and of conflict.

CORE II

Applications in Criminal Justice
CJ 8400 ***6 cr.***
Students must register for this six credit CORE which includes the following modules of study:

Criminal Law: Substantive and Procedural
CJ 8410
This area of study examines both substantive and procedural criminal law. Within the context of the historical development and philosophy of law, students are introduced to the definitions and classification(s) of crime and their application to the system of criminal justice.

Research Methods
CJ 8430
This course of study allows the student to develop competencies in understanding, analyzing, and questioning research findings. Basic techniques and knowledge are introduced to assist the student in locating, understanding, and using resources relevant to legal analysis of the law, measurement of crime and criminal behavior, and interpretation of research findings.

CORE IIB

Applications

CJ 8500 ***6 cr.***

Includes the following six course titles:

Criminology

CJ 8530

An examination is conducted of the historical development of criminological theories, including the Classical School of the eighteenth century, the Marxist and Socialist Schools of the late nineteenth century, and contemporary theories of the twentieth century. Emphasis is on social, political, economic, religious, racial, gender, and emotional characteristics of crimes and offenders.

Administration and Organizational Development

CJ 8540

This component increases the students' awareness of organizational dynamics by providing them with the skills to analyze organizations and to learn to view them from several frames of reference.

Contemporary Issues

CJ 8560

The course examines current social trends as they confront the criminal justice professional in the field, in institutional settings, and in the courts. Students explore contemporary theories and responses to emotionally demanding issues that challenge the community and the criminal justice system, as well as the strategies for responding to these problems.

Ethical Issues in Criminal Justice

CJ 8580

An examination of major ethical issues that span the components of the criminal justice system. Students will explore the ethical challenges and ensuing dilemmas that occur in daily professional work along with strategies for responding to job situations.

Professional Studies Track

Legalities of Criminal Justice Administration

CJ 9620* ***3 cr.***

The course examines contemporary issues facing criminal justice administrators and explores the legal considerations necessary in determining sound managerial solutions. Topics of discussion include: the legal implications of employee hiring, training, promotion, and discipline; internal investigations; discrimination challenges; affirmative action plans; labor relations and unions; and the development of departmental policies and procedures. Students examine each topic within the realm of relevant state and federal law. This course is especially fitting for practitioners who are faced with policy-related decisions in the criminal justice field.

Technology and Legal Limitations

CJ 9640* ***3 cr.***

This course surveys the latest technology used in the criminal justice field for investigative procedures, crime scene analysis, interviews, surveillance, and evidence collection. The course is designed to balance the limitations of advancing technology within the limitations of the law. The ethical question "Does the End justify the Means" is addressed throughout class discussions and case studies. Guest speakers with expertise in the technology field enhance the student's understanding of and appreciation for the use of investigative techniques.

Professional Issues: Liabilities and Challenges

CJ 9660* ***3 cr.***

This course clarifies the ideological conflicts—from enforcement to rehabilitation—that may be encountered by the criminal justice practitioner. Through case studies, this course focuses on the legal and ethical responsibilities of the criminal justice professional including: liability standards and philosophies of practice, and professional ethics. Attention is paid to the invisible effects of discretion as a part of the decision making process.

Cultural Diversity and Communication

CJ 9680* ***3 cr.***

This course reviews individual and group models of relationships between criminal justice agencies and the public, with emphasis on gender, race, and ethnic differences. Special attention is paid to areas of potential conflict and cooperation with distinctive cultural groups. Alternative dispute resolutions are emphasized, including problem solving, negotiation, meditation, and conflict resolution strategies.

CORE III

Theory and Practice/Capstone Experience

CJ 9800 ***6 cr.***

Option I: Internship

CJ 9820

The Capstone Internship is a supervised, field-based (300 hours) learning experience in an approved criminal justice agency. Responsibilities can include administration, case/clinical work, training and development, or research. The student is responsible for systematically applying theoretical concepts in an applied and practical way to the work of the organization and contributing to the goals of the criminal justice system. Placement is facilitated through the Field Placement Office, Department of Behavioral Sciences, in accordance with departmental policies. The Internship is monitored by a faculty member who conducts on-site evaluations of the student's skills and competencies. Students are required to meet as a group in a seminar class; assignments include a paper discussing a literature review of relevance to the Internship and a discussion of the application of the literature to the field experience.

Option II: Project

CJ 9840

The Capstone Project is a significant undertaking appropriate to the criminal justice field and reflects originality and independent thinking. The Project must be a systematically organized effort with appropriate form and methodology. Projects may vary considerably from developing a prototype service/program to undertaking a media project. A written abstract is required and includes an articulated rationale, explained significance of project, identified objectives, and conclusions/ recommendations. The student works under the supervision of a faculty member and in cooperation with an approved criminal justice field site. The focus of the project must be approved by the Graduate Committee on Criminal Justice.

Option III: Thesis

CJ 9860

The Capstone Thesis is supervised, systematic research or analytical study of a significant problem/issue, which results in an original, written product. Students are challenged to think independently and critically throughout the process of developing the study. The paper must reflect an organized effort with an appropriate and useful format through which to discuss a comprehensive review of the literature, problem identification, assumptions, significance of the study, sources and methods of gathering and analyzing information, and conclusions/ recommendations. The student works under the supervision of a faculty member, and the topic of the thesis must be approved by the Graduate Committee on Criminal Justice.

Seminar

CJ 9880

All students participating in the Capstone experience, regardless of the option chosen, meet together in a seminar class. Students share scholarship from their works in progress and discuss issues related to their Capstone experiences. Faculty facilitate the discussions and oversee the students' work. At the end of the Capstone experience, students present the results of their internship, project, or thesis to the entire Capstone group.

Early Childhood/ Elementary/ Middle School/ Secondary Education

Topics

EDUC 7000 ***3 cr.***

Course content varies from semester to semester, reflecting contemporary issues in the discipline and depending upon student and faculty interest.

Writing to Learn

EDUC 7001 ***3 cr.***

This research-based course is designed for classroom teachers, administrators, curriculum coordinators, Chapter I, ESL, Bilingual, and special needs teachers who want to involve themselves in the writing process and become more knowledgeable about the teaching of writing.

Developing Interdisciplinary Learning Centers: Incorporating Cooperative Learning Strategies

EDUC 7006 ***3 cr.***

This course explores the variety of methods and materials inherent in developing multi-level, multimedia learning centers. The focus will be on integration in a variety of curriculum areas. Participants develop an interdisciplinary learning center to be used in a classroom setting. Techniques for effectively incorporating cooperative learning strategies into the implementation of these centers will be explored. Scheduling and evaluative techniques are integral parts of the focus in this K-12 course.

Developing Math Materials for Classroom Use

EDUC 7007 ***3 cr.***

This course involves the construction and use of varied math materials used for instruction in K-12 classrooms. Displays of multi-level, multi-media materials emphasize hands-on methods of instruction. Scheduling and evaluative techniques are also discussed.

Construction and Use of Reading Games

EDUC 7008 ***3 cr.***

Participants develop and assess learning games used for reading instruction in grades K-12. Many methods and materials are presented, shared, and discussed by the instructor. Reading games are made by course participants to meet their individual needs in the classroom.

Storytelling in the Curriculum

EDUC 7010 ***3 cr.***

This course will address storytelling and its relationships to today's multicultural classroom. We will discuss the use of oral history projects and the use of folklore in the curriculum. Emphasis will be on promoting storytelling in the classroom. Current theory on the relationship of oral and written language acquisition will be reviewed. Storytelling, self-esteem building, healing and creative conflict resolution techniques for the classroom will be discussed.

The Modern Secondary School

EDUC 7012 ***3 cr.***

This course is required of all MAT candidates who do not have Provisional Certification with Advanced Standing. It covers a broad range of issues faced by teachers in today's secondary schools. Students will become familiar with the complexities of secondary school teaching and its demands. It includes 75 hours of pre-practicum experience.

The At Risk Young Reader/Writer: Assessment and Intervention

EDUC 7017 51 ***3 cr.***

This specialized course focuses on early intervention for young children (K-2) who are at risk or are experiencing difficulties learning to read and/or write. The course uses the theoretical framework of emergent literacy as a foundation for assessment and intervention strategies. Students learn to use a variety of assessment tools, such as observation survey and running records to plan individualized, small group (guided reading) and large group (morning message, interactive writing) interventions.

Connecting Reading and Writing

EDUC 7021 ***3 cr.***

This research based course is designed for classroom teachers, administrators, Chapter I, ESL, Bilingual, and special needs teachers who have participated in "Writing To Learn" and would like to become more knowledgeable about the relationship between reading and writing.

Prerequisite: EDUC 7001 or permission of the Instructor.

Teaching Science in the Elementary and Middle School

EDUC 7025 ***3 cr.***

This course covers contemporary thinking, practices, and research in the teaching of science to elementary and middle school students. Emphasis is on providing innovative hands-on experiences for students.

Advanced Concepts and Methods of Elementary and Middle School Math

EDUC 7040 ***3 cr.***

Participants investigate methods and materials used in elementary and middle school programs. Students develop functional math skills for use by elementary and middle school teachers. This graduate course includes information on math principles (set, function, probability and statistics, geometry, and measurements, algebra, and computer awareness) and provides opportunities for the application of such information.

Whole Language in the Elementary School

EDUC 7101 ***3 cr.***

This course provides a study of reading and writing processes from a psycholinguistic viewpoint. Whole language strategies for developing meaning including charts, chants, and shared reading are explored. Emphasis is on theory and effective practice.

Early Childhood Education Issues: A Seminar

EDUC 7170 ***3 cr.***

This course is designed to investigate issues and problems related to the education of young children. Emphasis is placed on current research and developmental theories related to the emotional, social, cognitive, linguistic, motoric development of a child and learning theories. Methodological and curricular concerns, teaching strategies, and child-centered issues are explored. Other topical areas include developmentally appropriate practices, national accreditation, and teacher training in early childhood education. As part of the seminar students are required to undertake a library research paper on some aspect of Early Childhood Education.

Play in Early Childhood Education: Theory, Research, Practice

EDUC 7190 ***3 cr.***

This course is designed for Early Childhood Educators and students of Early Childhood Education who are interested in investigating play—the most important means that young children have in growing cognitively, socially, emotionally, physically, linguistically, and motorically. Theories of play, methods to enhance development through play, effective approaches to support young children's play, as well as materials and resources are explored.

Advanced Child Development

EDUC 7300 ***3 cr.***

This core course explores human growth and development from birth to age eighteen. Particular attention is given to exploring the relationship between developmental theory and knowledge and educational decisions and practice. Various theoretical perspectives are covered as well as specific developmental areas, such as physical-motor, cognitive, language, social, and emotional development. How children develop as thinkers and learners, specifically how problems are solved at different points in development, is emphasized. In addition, students develop a clear understanding of the process of objective observation of children, as well as observation and recording skills appropriate for investigating various aspects of child development and behavior. Dual Stage Track students complete a pre-practicum experience.

Contemporary Issues in Education

EDUC 7400 ***3 cr.***

This core course is designed to encourage students to think about the history and foundations of educational practice and issues. Students reflect upon past, current, and emerging educational practices and issues using a variety of frameworks including: historical, theoretical, social, political, and legal. The current issues discussed include relating to teaching as a profession. Particular emphasis is placed upon rethinking personal assumptions, considering alternative perspectives, and investigating current and emerging educational theories, practices, and issues.

Curriculum Design and Implementation for Multi-Needs Populations

EDUC 7500 ***3 cr.***

This core course is designed to provide students with knowledge and skills of the curriculum development process as well as an awareness of societal demands on the curriculum. Effective curriculum development and implementation is a dynamic and continuous process through which teachers can plan, implement and evaluate the instructional program in a systematic and logical way. Particular attention is given to designing and organizing curriculum and selecting teaching strategies, which effectively create a learning environment to meet the diverse needs of students. Students cover the major components of the curriculum development process including developing philosophy and objectives, needs assessment, instructional planning and implementation, assessment and evaluation, and curriculum refinement. Emphasis is given to the curriculum areas of Fine Arts, Math, Science, and Social Studies. Students demonstrate curriculum competencies through the development of various curriculum projects, which include understanding a variety of teaching strategies, resource applications, and student assessment. Dual Stage Track students complete a pre-practicum experience.

Advanced Assessment, Design, and Evaluation of the Middle School Curriculum

EDUC 8150 ***3 cr.***

This course studies the historical and philosophical foundations of curriculum development in the middle school. By looking at various curriculum models, existing curriculum, the nature and needs of the middle school student, subject area knowledge, established standards and societal issues, students fully explore the question, "What ought to be the curriculum of the middle school?" Special attention is given to interdisciplinary, thematic planning, and instruction.

Qualitative Reading Assessment and Analysis

EDUC 8200 ***3 cr.***

This core course focuses on reading assessment through use of informal procedures, such as miscue analysis, metacognitive assessments, schemata assessments, informal reading inventories, and other teacher initiated and designed assessment procedures. Additionally, the course emphasizes teacher decision making and instructional planning based on qualitative analysis of children's reading and study strategies.

Prerequisites: a course in Literacy Education at the graduate level recommended or with permission of the Instructor.

Family Involvement in Early Childhood Education

EDUC 8250 ***3 cr.***

This specialized course explores the importance of family interaction with the Early Childhood Educator. Students receive a general overview of parent-child interactions, parent involvement, parent education, and parent participation in Early Childhood Education. Students are exposed to the various theoretical and practical approaches to family involvement practices in the Early Childhood Education setting. Awareness, understanding, and appreciation of various family needs, circumstances, and cultural experiences are promoted. Family-professional partnership models, which effectively serve families with a variety of needs and experiences, are explored.

Research in Education

EDUC 8300 ***3 cr.***

In this core course students engage in the scientific reasoning process and reflect upon this process as it relates to the educator's role. The goals and methods of educational research, the reading and analysis of primary sources, development of an educational research proposal using research, and the teacher as researcher, are explored. In addition, course material includes currently used research strategies, such as ethnographic studies and the case study approach. Emerging educational practices that are research-based are highlighted. Appropriate inferential and descriptive statistical methodologies are also studied.

Middle School Instructional Strategies and Practices

EDUC 8350 ***3 cr.***

This course provides an in-depth look at a variety of instructional practices and strategies appropriate for effective teaching and learning of the early adolescent. Attention is given to addressing the needs of diverse student populations, including but not limited to children with different learning abilities, exceptional talent, different culture/ethnic background or at-risk characteristics. Active and interactive learning strategies are emphasized.

Advanced Social Studies in Education

EDUC 8360 ***3 cr.***

This course assesses traditional as well as new technologies and their potential applications within the field of social studies education from a historical, theoretical, and practical perspective. Students examine how to integrate instructional experiences that equalize educational opportunities for a diverse and inclusive student population and explore opportunities for enhancing multicultural pluralism. The course investigates social studies content, strategies, and techniques deemed essential to fulfill varied curriculum requirements by exploring the integrative and interdisciplinary nature of the content. Action-oriented processes are used to focus on the pertinent questions and issues at local, state, and national levels as well as those of global importance. Also inquiry-oriented processes are used to require students to ask questions and further develop and expand academic, social, and thinking skills and/or strategies through a variety of approaches to research in the social studies/social science areas. Students are encouraged to challenge convention, raise questions about social assumptions and identify critical issues in social studies education.

Literacy in Elementary and Middle School Education

EDUC 8400 ***3 cr.***

This specialized course in literacy education examines literature and research related to literacy development. Specific attention is focused on language development, reading/writing process and on literature-based instruction. Classroom strategies and curriculum adaptations that enhance the learning and motivation of diverse learners, including those which integrate the Fine Arts, are presented, implemented, and appraised. Dual Stage Track students complete a pre-practicum experience.

Literacy in Early Childhood Education

EDUC 8450 ***3 cr.***

Advanced strategies for literacy development of young children are presented in this specialized course. Specific focus is placed on emerging literacy and reading process and adaptations, including adaptations which integrate the Fine Arts to address the needs of all learners. Students examine the interdependence of reading and writing on oral receptive and expressive language. A review of the literature that emphasizes theoretical and empirical research related to literacy development and its implications for teaching young children is investigated. Dual Stage Track students complete a pre-practicum experience.

Advanced Emergent Literacy: New Perspectives, Pre-K - 2

EDUC 8480 ***3 cr.***

Emphasis in this course is placed on reading and understanding the implications of recent research in emergent literacy. In addition, students observe and respond to early reading and writing behaviors. Students learn to support early writing, develop directional principles, and understand concepts about print and early reading strategies from Reading Recovery by identifying and selecting natural language texts that promote a self-improving reading system and using picture book literature in gaining literacy. Participants learn to make instructional decisions based on current knowledge of emergent literacy and their own close observations.

Prerequisites: EDUC 7101, 8400, or 8450.

Developmental Assessment in Early Childhood Education

EDUC 8500 ***3 cr.***

This is an advanced course in the design, development, and implementation of developmental assessment tools in Early Childhood Education. Students explore the meaning of developmental assessment, aspects of assessment reliability and validity, test construction and administration, limitations of assessment, observation as a tool for assessment, and other related topics. Students evaluate and demonstrate the uses of various assessment instruments.

Advanced Seminar in Child-Centered Issues

EDUC 8600 ***3 cr.***

This specialized course in the Elementary Education program provides students with the opportunity to explore, discuss, and reflect upon a variety of child-centered issues. Background information for discussions includes research results concerning environments which support and enhance optimum development. Some of the topics covered in the class are multi-cultural/multi-ethnic education, family-teacher partnerships, self-esteem research, mainstreaming, cognitive styles and creativity, the educator's role with abused children, and educating from student strengths and interests.

Advanced Strategies and Approaches for Teaching Critical Thinking in the Content Areas

EDUC 8650 ***3 cr.***

This specialized seminar integrates all content area subjects in an elementary school curriculum. In particular, it introduces students to the nature and scope of Mathematics, Science, Social Studies, and Fine Arts in the elementary school. Students investigate a variety of content models and curriculum programs while they explore theoretical foundations, practical applications, and current issues in the content areas. Strategies and modern techniques for effectively working with diverse populations of students, including computer application in the various content areas, are researched and emphasized. Students demonstrate competencies by developing and demonstrating techniques and activities which illustrate how concepts and practices are learned in each module and how they relate to student needs.

Seminar in Early Adolescent Issues

EDUC 8750 ***3 cr.***

This specialized course in the Middle School Education program gives students the opportunity to identify, explore, discuss, and reflect upon a wide variety of early adolescent issues central to the adolescent students' education, growth, and development. Background information for discussions include research results concerning environments, which support and enhance adolescents' optimal development. Topics explored in the course may include self-esteem; family, school, and community partnerships; learning styles; social changes; and the role of the middle school teacher.

The Adult Learner

EDUC 9010 ***3 cr.***

The focus of this course is on the nature of the adult learner. Through journals and readings students gain an understanding of how the adult learner processes experience, how learning is best structured, and how feedback should be provided. An extension of this focus includes an investigation of human relations, gender uniqueness as well as relations within diverse populations as they impact the personal competence of the adult learner.

Clinical Internship I and II

EDUC 9200/9201 ***3 cr./3 cr.***

This internship is required of students in the Early Childhood Education, Elementary Education, and Middle School Education Clinical Tracks to provide students with the opportunity for supervised direct teaching in the role and at the level of the certificate sought. Students demonstrate advanced pedagogical and content knowledge, skills, understanding and collegial orientation, and are involved in advanced seminar work. Students are required to begin the investigation of some aspect of educational theory or practice and complete a research project. Matriculated students in the Early Childhood Education, Elementary Education, and Middle School Education Clinical Tracks are eligible for enrollment in an Internship program if they meet the following requirements: successful completion of three core courses "(A) level" and one specialization course "(B) level", an approved plan for simultaneous enrollment in one or two specialized courses, and a plan for an Internship approved by their advisor one semester in advance.
Note: Clinical Internship I and II may be taken in the same semester or in successive semesters.

Educational Strategies

EDUC 9250 ***6 cr.***

Given the context of the adult learner and the process of implementing educational change studied in the previous courses in the CAGS sequence, the focus of this course is on effective and promising strategies which improve teaching and, thereby, learning for all children. Students become proficient at critiquing the design, analysis, and results of research to determine which strategies hold promise for improving teaching. Students also study current effective strategies in the field, such as cooperative learning, social interaction, peer mediation, teaching/learning styles, cross cultural competency, apprenticeship models, reciprocal teaching, and project approach, as well as implementation of these strategies in their schools.

Internship and Reflective Analysis Seminar

EDUC 9350 ***6 cr.***

This internship is designed to advance the development of self-directing educators who initiate, facilitate, participate in, and evaluate all aspects of educational practice. A year-long experience, the Internship offers an opportunity to practice communication skills and apply collaborative skills with one or more colleagues in the field. Through cooperative participation of school personnel, students are given the realm in which to plan, organize, and evaluate ways of improving instruction and to implement educational change through such peer leadership structures and practices as mentoring, collaborative supervision, peer coaching, and team teaching. All work is carried out under the supervision of faculty. Ongoing internship projects are analyzed during biweekly seminars.

Mentoring Internship: Program Design, Management, and Evaluation

EDUC 9360 ***3 cr.***

Practicum I/Early Childhood

EDUC 9400 ***3 cr.***

In this practicum experience students are assigned to cooperating schools for a period of student teaching.

Practicum II/Early Childhood Education

EDUC 9450 ***3 cr.***

In this practicum experience students are assigned to cooperating schools for a period of student teaching.

Practicum/Elementary Education

EDUC 9600 ***3 cr.***

In this practicum experience students are assigned to cooperating schools for a period of student teaching.

Practicum/Middle School Education

EDUC 9700 ***3 cr.***

In this practicum experience students are assigned to cooperating schools for a period of student teaching.

Earth Science

Ecology

ESCI 7007 ***3 cr.***

The dynamic relationship between organisms and their environment is investigated in this survey of major ecological concepts and methodology. Field and laboratory work emphasize problem identification, formulation of hypothesis, data collection, and analysis and interpretation of results in terms of biological implications.

New England's Glacial Landscape

ESCI 7100 ***3 cr.***

New England's topographic features were shaped during the last ice age which ended approximately 11,000 years ago. Students learn how glacial geologists study ice age clues to determine how local landforms were developed. Field trips are required with emphasis on site identification of glacial features.

Observational Astronomy

ESCI 7200 ***3 cr.***

This celestial survey course is aimed at providing both basic instruction and experience in viewing and recording the evening sky. Participants learn to set up, align, and use all types of basic telescopes; view constellations, planets, moon star clusters, nebula, galaxies, double stars, and variable stars of the fall and early winter sky; learn basic techniques for recording observations through the medium of sketching, photography, and CCD cameras. A substantial part of this course consists of field work located at instructor's observatory in a rural section of Fitchburg approximately ten minutes from the college. The remaining work consists of labs and analyses of data collected by participants. A project is required of all students.

Meteorology

ESCI 7300 ***3 cr.***

This is an introductory course in atmospheric meteorology, oceanography, and the space environment. Main topics of consideration are climatology and large-scale transient weather phenomena that affect the earth. Course curriculum includes background concepts in meteorology and a student project on a topic of current interest.

Oceanography

ESCI 7400 ***3 cr.***

This course examines the physical and chemical properties of sea water and their roles in the energy/nutrient cycles of marine ecosystems, the role of nutrient cycles and upwelling in fisheries locations, the fluid dynamics of oceanic circulations in both the surface and deep water regions, and the geology of the seabed, including plate tectonics (continental drift), marine sedimentation processes and coral reef formation and bleaching. Finally, a thorough study of the coastal geomorphic/oceanic processes that shape the coastlines of the world via wave dynamics, coastal erosion, and erosion control techniques is explored.

Advanced Methods of Teaching at the Secondary Level I

ESCI 7500 ***3 cr.***

See BIOL 7500 for course description.

Advanced Methods of Teaching at the Secondary Level II

ESCI 7550 ***3 cr.***

This course is a continuation of ESCI 7500. *Prerequisites: ESCI 7500, ESCI 8260.*

Environmental Geology

ESCI 8100 ***3 cr***

A case studies approach that applies basic principles of geology to environmental problems as a result of such phenomena as earthquakes, volcanic eruptions, landslides, floods, groundwater, contamination, fossil fuels, and processing of natural resources. *Prerequisite: introduction to Geology or its equivalent.*

Curriculum and Technology

ESCI 8250 ***3 cr.***

This course looks at the integration of educational technology in the classroom, and its relationship to learning theories. Mac and IBM computer hardware, and interfaces for classroom inquiry including video and microscope cameras, digital image capture, scanners, and computer projection panels are examined. Students learn similarities between standard software programs available for writing, computation, and data analysis. It includes a survey of software for studies, ranging from Encyclopedias on CD-ROM to programs that are specific to the study of various topics in science, art literature, math, and language. The class explores the use of the internet as a classroom resource, the hardware and software necessary to get on line, search engines, browsers, URLs, online journals, education web sites, online interest groups, and how to design a web page.

Curriculum Design and Development

ESCI 8260 ***3 cr.***

This course is designed to provide students with knowledge and skills of the curriculum development-revision process. In collaborative groups students review, revise and expand the curriculum and assessment procedures in order to integrate current research findings and education reform initiatives. Students articulate a general Curriculum map contextually appropriate for grade-level content as they plan for integrating content with social, behavioral, processing, thinking skills and Curriculum frameworks. Students design an integrated 9-12th grade curriculum that aligns content standards across disciplines. Finally, interdisciplinary groups design an integrated curriculum unit.

Research in Education

ESCI 8500 ***3 cr.***

Research is carried out in a specific field of Education that involves an in-depth exploration of a well-defined problem. The student must develop a hypothesis for the possible solution to the problem; develop the experimental technique to test the hypothesis; and develop a logical conclusion based upon the data collected. The final product is a written documentation of the research and results. Each study is done under the supervision of graduate faculty.

Independent Study

ESCI 9100 ***3 cr.***

The content of these courses is designed by a student with the guidance of a faculty member to provide in-depth exposure to a topic for which no regular course is available.

Clinical Experience

ESCI 9400 ***6 cr.***

See BIOL 9400 for course description.

Internship

ESCI 9500 ***6 cr.***

The Internship is a capstone experience allowing full integration and application of content knowledge and pedagogical theory and practice. Within the individual's classroom it incorporates all standards specific to the discipline in which certification is sought as well as all common standards for classroom teachers. A minimum of 400 clock hours or one full semester on-site under the auspices of the college is fulfilled. A research project is completed during the duration of the internship.

Educational Leadership and Management

Computer Application in Education

EDLM 7000 ***3 cr.***

This course is designed for teachers and administrators who have had little exposure to computers and data processing. Administrators learn to use the computer as a management tool, especially as it relates to fiscal and personnel matters. Through hands-on experience, participants become familiar with the equipment and learn how computers and systems work.

Politics of Education

EDLM 7005 ***3 cr.***

This course deals with the various processes that are utilized at the Federal, State, and Local levels to identify multilevel educational programs and priorities and to fund them. Students develop systematic knowledge about their political environment, acquire skills and strategies necessary to act on that knowledge, and attain principles that shape responsible political action. Guest speakers share their particular viewpoints in these areas.

Physical Plants and Transportation

EDLM 7010 ***3 cr.***

This course examines the challenges, problems, and activities related to new building programs, as well as the various aspects of phasing out old buildings; providing alternate uses; and redefining grade, curricula, and administrative organizational patterns.

Organizational Theory and Educational Planning

EDLM 7020 ***3 cr.***

This course explores the principles of school district organization and function In the context of the school district, students assess the individual and social needs, formulate direction setting purposes, and acquire model building and simulation techniques. Plant management and transportation issues are also addressed.

Introduction to Systems Approaches in Education

EDLM 7030 ***3 cr.***

The course provides a conceptual basis for systems approaches to administrative and leadership problems in education. Through cases and simulations students learn the application of such techniques. Needs assessment, planning, operational, and evaluative approaches are discussed and practiced.

Collective Bargaining in Education

EDLM 7040 ***3 cr.***

This course reviews the Federal and State statutes pertaining to collective bargaining in the public sector. Specific emphasis is placed on those statutes bearing on Massachusetts and its educational enterprises. Among the topics discussed and dissected are bargaining contracts, bargaining processes, and legal issues.

Topics

EDLM 7500 ***3 cr.***

Course content varies from semester to semester, reflecting contemporary issues in the discipline and depending upon student and faculty interest.

Applying Computer Technology in Education

EDLM 7510 ***3 cr.***

This course provides teachers and administrators, at all levels and in all subject areas, with strategies for developing and implementing the use of current and near future computer technology in education. Participants explore creative techniques to build into and enhance their existing curriculum. Working with current software applications, the Internet, and the World Wide Web, participants devise programs and materials for their own classrooms and schools and in support of their teaching. Individual laboratory and project development activity will take place during each class. Little or no prior computer experience is needed.

Planning Professional Development Programs

EDLM 7520 ***3 cr.***

This course will assist both the educational administrator and the classroom practitioner to focus on professional development and its central importance to school improvement. Students will consider the necessary elements to develop a "quality" professional development program. Given the current Massachusetts reform initiative in teacher certification, and that school districts are providing low or no cost options for staff development, this seminar will address timely issues including effective analysis, planning, roles, schedules, and designs of meaningful professional development. Professional training plans and techniques in hospitals, social agencies, and industrial sites will also be explored.

Schools, Family, Student Partnerships in Education

EDLM 7530 ***3 cr.***

This course explores techniques and practices which can maximize the strengths and advantages of schools, families, and students. A shift of the current paradigm of education to one that applies the principles of supporting and developing the student is explored. Particular attention will be given to teacher, parent, and student partnerships for learning how to help students to learn. While discussing theoretical and practical applications of such partnerships, functional local programs will be designed to enhance the involvement of each of these groups in the educational process.

Managing Diversity

EDLM 7600 ***3 cr.***

This seminar focuses on cultural diversity in schools and on the growing challenges and opportunities diversity provides for educators. Emphasis is given to the unique regional cultural/linguistic demographics of diversity within a proactive perspective. Reflective readings and application strategies prepare the educational leader for rewarding multicultural communication and a commitment to effective management of diversity.

Community Relations

EDLM 8000 ***3 cr.***

Students learn communication techniques and acquire knowledge about political structures and regulations for improving a school and/or community. Individuals develop strategies for relations within their own community, utilizing specific goal-setting techniques. A review of current literature promotes an awareness of the diverse publics involved and suggests methods for dealing with and influencing perceptions about schools and their educational goals. A pre-practicum experience is included as an activity of this course.

Foundations of Educational Administration

EDLM 8005 ***3 cr.***

This introductory course is designed to provide an overview of school leadership focusing on the philosophical foundations of education; the psychological traditions of learning processes; the legal parameters of the school as an institution within the society; the cultural environment of urban, suburban, and rural educational settings; and educational trends as indicated by current research and pertinent literature.

Principles of Success for Practicing Administrators: Putting Plans into Action

EDLM 8006 ***3 cr.***

This course develops theory and practice behind the implementation of "Principle-Centered Leadership." The course is built around specific issues and needs of individuals who are fully employed as school administrators/directors. Topics covered include: communicating effectively, developing innovative action plans based on goals and vision, creating a support system that empowers others, and developing steps of program implementation within organization restrictions. Administrators practice sustaining action, problem solving, celebrating success, and measuring progress.

Human Resources and Personnel Administration

EDLM 8010 ***3 cr.***

This course focuses on establishing the rationale and organizational structure that supports effective human resource administration. Among the topics included in this course are staff selection, teacher induction, teacher tenure, promotion and dismissal, salary scheduling, policy making, relations with professional and non-professional personnel, and employee welfare. Emphasis is placed on the interpersonal dynamics of the educational enterprise as it relates to human resource management. Additionally, there is an exploration of issues involving, affirmative action, and concerns about the underrepresentation of minorities in teaching and administration.

Law for the Educator

EDLM 8020 ***3 cr.***

Constitutional and statutory provisions governing a public school system are examined on local, state, and national levels. A thorough review is made of the legal parameters surrounding the local level of the educational system. In addition, students inspect federal and state guidelines generated to meet the needs of diverse student populations in compliance with current judicial decisions and state legislation. The impact of precedent-setting cases is a major focus of this course.

Public School Finance

EDLM 8030 ***3 cr.***

This course addresses the fiscal and allocated functions of school administration. Students develop the skills and knowledge related to budgeting, accounting, and financing at the local, state, and federal levels. Resource acquisition and development of strategies for locating alternative revenue sources and, subsequently, allocating these resources efficiently and effectively are skills the student acquires.

Curriculum Leadership and Evaluation

EDLM 8040 ***3 cr.***

This course is designed for administrators who must become knowledgeable about curriculum development and program evaluation. The role of the administrator as a decision-maker and as an instructional leader is explored. Emphasis is placed on program development and evaluation, which reflects the various cultural and ethnic minority groups students represent. Additionally, practical applications of programs as well as the application of evaluation models and techniques are investigated. Prepracticum responsibilities are a part of this course.

Seminar: Research in Educational Leadership

EDLM 8050 ***3 cr.***

This course is designed to acquaint the student with the current research in Educational Administration and to teach the student how to evaluate the pertinence of this research to educational problems and issues. Students identify and use research sources and undertake projects that prepare them to address educational issues in an informed and lucid manner. Prepracticum responsibilities are a part of this course. This course may be taken in conjunction with the practicum EDLM 9110-9220.

Administration of Special Education Programs

EDLM 8800 ***3 cr.***

Service delivery models as they relate to legislation and the various types of handicapping conditions are presented in this course. Emphasis is given to services, organization programs, personnel, and facilities as they relate to the needs of the exceptional child and adult. As a result of this course students are expected to be well-versed in the effects of Federal and State mandates for special education services.

The Principal: Organization and Administration of the Elementary, Middle, and Secondary School

EDLM 9000 ***3 cr.***

This course addresses the role of the principal as an effective manager of schools at various levels of education. The focus is on the development of the human, conceptual, and technical skills required of decision-making, communication, planning and recruitment, scheduling, public relations, evaluating, and contract management. Course assignments reflect the specific level of interest of the participants (elementary, middle, and senior high schools). Nine semester hours of prerequisite core courses (excluding EDLM 91XX) are required.

Cases and Concepts in Educational Administration

EDLM 9010 ***3 cr.***

A case study approach is used to address problems and issues encountered in school administration. Current managerial concepts and strategies are used to explore alternative solutions to and methods of dealing with administrative problems and issues. This course is normally taken by students when all core courses have been completed in order to maximize their integration of administrative knowledge and skills.

Public Relations Tools for Leaders

EDLM 9015 ***3 cr.***

Leaders are successful only when they win support for their programs. This course provides leaders with the tools to develop the public relations strategies, plans, and campaigns that bring success within reach. More practical than philosophical in its approach, this course emphasizes audience analysis and long range planning while providing proven techniques for using the news media, writing effective speeches, synchronizing community relations initiatives, and managing a bad news' crisis. At the end of the course, each leader will have a tailored action plan and the wherewithal to implement it.

Collegial Supervision

EDLM 9020 ***3 cr.***

The nature and function of supervision as it relates to both the teacher and the supervisor are studied. Also presented is a contemporary view of the concept of supervision from both a theoretical and practical perspective. The role of the "supervisor" is discussed as it has evolved from the traditional model to the instructional leadership model—a model

that embraces collegiality and professional development. Included are strategies and processes related to a variety of supervisory models, e.g.: clinical supervision, mentoring, differentiated supervision, cooperative development, and self-directed development. Emphasis is on studying ways in which the planning, organization, and evaluation of instruction may be effectively improved through the cooperative participation of school personnel.

History of Higher Education

EDLM 9026 ***3 cr.***

The course explores the major development in American education from the seventeenth century to the present. Emphasis is placed upon aspects of European education and how it impacted higher education as we presently know it. The philosophical as well as historical aspects of the modern system and its evolution are covered.

Leadership Theory

EDLM 9030 ***3 cr.***

This course covers the entire Leadership Theory Movement from its inception to present day thinking. All aspects of the discipline are covered, including leadership theory, findings of leading scholars, leadership techniques, case studies associated with successes and failures, and application to a modern society.

Organizational Issues

EDLM 9040 ***3 cr.***

This course covers the role of the modern organization in a changing environment with emphasis on key organizational issues of importance.

College and University Teaching

EDLM 9050 ***3 cr.***

This course explores the history, philosophy, and objectives of teaching at all levels of higher education. The teaching and learning process is covered in depth with a special emphasis placed upon developing an understanding of the student, teacher, and the interaction required for effective learning.

Social Context

EDLM 9060 ***3 cr.***

This course covers social issues in higher education in a changing environment with emphasis on key current issues.

Strategic Planning in Higher Education

EDLM 9070 ***3 cr.***

This course is a comprehensive review of strategic planning for higher education. All functional areas of strategic planning are covered with emphasis on its relationship to marketing, management, and finance. The course utilizes case studies.

Practicum in Higher Education Administration

EDLM 9080 ***6 cr.***

The practicum/internship position for the enrolled student provides all of the necessary experience for a particular position in administration. The experience is supervised by an experienced faculty member. The timing coincides with an academic semester. Specific educational outcomes are developed by the student with assistance from a designated faculty member. A total of 300 hours are required for the semester.

Independent Study

EDLM 9090 ***3 cr.***

This course utilizes a conference approach with an individual student placing emphasis on critical thinking, refinement of research skills, and ability to pursue topics independently. In some exceptional cases, students are permitted to utilize this course in lieu of core or specialization track courses due to completion time constraints or lack of course offerings.

Prerequisite: permission of Advisor only.

The Dynamics of Planned Change

EDLM 9100 ***3 cr.***

A study of planned change, essentially aimed at education, includes a review and analysis of sociological and psychological factors inherent in the change process. Topics reviewed include organizational behavior, intervention theory, intergroup relations, and management techniques.

A Practicum in Educational Leadership and Management

EDLM 9110/9220 ***6 cr.***

The culminating course in the Master's Degree program consists of an internship experience under the direct supervision of a principal and/or director. The graduate student is obliged to work in a school setting performing the kinds of responsibilities and duties for which he/she is preparing, i.e. principal—supervisor/director. The practicum can be arranged for full-time or part-time. Students must discuss proposed arrangements with their advisor early in their program. During the practicum, students meet with their college advisor and are visited at their practicum site. This practicum consists of a minimum of 400 clock hours earned at the practicum site.

Clinical Experience in Educational Leadership and Management

EDLM 9221 ***6 cr.***

The clinical experience is in the role and at the level of the certificate sought. It integrates content area knowledge, pedagogical theory, and practice. A clinical experience requires a minimum of 400 clock hours or one full semester as defined by the field site. Clinical experiences are fulfilled either under the auspices of a college or university, in which case supervision and evaluation are the responsibility of the college or university, or under the auspices of a school system authorized by the Bureau as a clinical experience site, in which case supervision and evaluation are the responsibility of the school system. Evaluation of all clinical experiences are based on the appropriate standards for the Administrative Certificate being sought.

Thesis

EDLM 9500 ***3 cr***

The thesis is undertaken by students who are not seeking certification and in lieu of the practicum/internship in the Education Leadership and Management Program. (See Thesis description in the Education Leadership and Management program description).

The Contemporary Educational Leader (Capstone)

EDLM 9600 ***3 cr***

This course explores the significant issues and relevant research affecting individual and systemic educational leadership. Students will actively investigate such topics of contemporary concern as diversity, reform movements, the profession of teaching, the poser of leadership, creative curricula, innovative learning environments, the promise and potential of new educational technologies, equity in funding and financial megatrends. The course will provide master teachers, administrators, and staff developers with new insights into the key ideas and critical components of proactive leadership.

Educational Technology

Impact of Technology on Education

ETEC 7600 ***3 cr.***

This course includes content related to the impact of technology on education, especially as it relates to effective teaching and curriculum development. The use of technology as a change agent in schools is explored. Students are exposed to the variety of technologies used in schools.

A Graphics Approach to Technology

ETEC 7700 ***3 cr.***

This course explores the integration of visual learning and computers. Students explore the use of paint programs, hyperstudio, videos, and interactive videos. The MacIntosh computer's approach to software (pull down menus and use of the mouse) is investigated.

Using the Computer as a Tool for Thinking Skills

ETEC 7800 ***3 cr.***

This course integrates critical thinking skills and computers. Students explore the use of problem solving software, Logo, and Logo Writer. By using the computer as a tool for conducting research students are enabled to look at CD ROM, Database Applications, Hypercard, and Telecommunications.

Topics

ETEC 8000 ***3 cr.***

Course content varies from semester to semester, reflecting contemporary issues in the discipline and depending upon student and faculty interest.

Computers and Writing

ETEC 8600 ***3 cr.***

This course provides teachers and administrators, at all levels and in all subject areas, with strategies for developing and implementing a computer-assisted process writing program in their classrooms and schools. Participants examine the process of writing (idea generating, drafting, responding, revising, editing, and publishing) and are introduced to ways of using the computer to facilitate writing growth at each stage. Working with current writing software programs, editing tools, and desktop publishing packages, participants devise a computer-assisted writing program for their own classrooms and schools. Previous computer experience is not required.

Seminar in Educational Technology

ETEC 9100 ***3 cr.***

Students have the opportunity to examine, in depth, current issues and future directions in educational technology. Discussions and readings focus on the relationship between the computer and teaching methodologies, as well as teacher effectiveness and curricula.

Project in Educational Technology

ETEC 9200 ***3 cr.***

Completion of a comprehensive project utilizing educational technology in elementary education, special education, or secondary education is required. The projects developed and implemented are evaluated by a review board of classmates and faculty.

English

Children's Literature

ENGL 7010 ***3 cr.***

Students in this class study the content of classic and contemporary children's literature plus various approaches for interpreting and teaching a wide variety of children's texts. Close attention is paid to emerging trends in children's literature as well as to the literature's enduring concerns.

Advanced Methods of Teaching at the Secondary Level I

ENGL 7500 ***3 cr.***

See BIOL 7500 for course description.

Advanced Methods of Teaching at the Secondary Level II

ENGL 7550 ***3 cr.***

The course is a continuation of ENGL 7500. *Prerequisites: ENGL 7500, ENGL 8260.*

Creative Writing

ENGL 8020 ***3 cr.***

This course facilitates the writing of poetry and short fiction in a workshop atmosphere.

The Robert Cormier Collection

ENGL 8035 ***3 cr.***

This course is a study of the writings of Robert Cormier, the internationally acclaimed Leominster author, using materials in the Robert Cormier Manuscript Collection at Fitchburg State College. *The Chocolate War, I Am the Cheese, After the First Death, Fade, We All Fall Down, Tenderness,* and other works by Cormier are studied.

Theories and Principles of Language Learning

ENGL 8040 ***3 cr.***

This course provides teachers of multilingual students with a theoretical background for the teaching and learning of languages. It introduces research into second language acquisition from perspectives of the fields of linguistics, psychology, and education. Topics included in the course are language acquisition; learning styles and strategies; effects of personality, age, motivation, and sociological factors; and the role of the first language. Discussions explore the relationship of theory to methodology and classroom practice.

Methods and Materials in ESL

ENGL 8042 ***3 cr.***

The major methodological approaches to teaching English as a Second Language (ESL), including a historical survey and a review of current applications, are explored in this course. The following topics are discussed: interactive, communicative classroom practices; teaching reading, writing, listening, oral communication, grammar, and vocabulary; testing; designing and evaluating classroom materials.

Graduate Research in English

ENGL 8050 ***3 cr.***

This course is designed for students who are new to the English Graduate program. It exposes students to a range of subjects in the field. The course promotes the student's ability to do independent and creative scholarly research and to become more competent in critical approaches to literature, research techniques, new methodologies and technologies, as well as library and archival examination.

Literature in the Classroom: Readers, Texts, and Teachers

ENGL 8070 ***3 cr.***

This course examines the place of literature in today's middle and secondary school classrooms. Using the Standards for the English Language Arts (NCTE and IRA), and the Massachusetts English Language Arts Curriculum Framework as guides, students consider the choice of classic and contemporary literature for whole class and individual reading, strategies for creating responsive and reflective readers, and various means of assessing student performance. The impact of new media and electronic technology on our thinking about literature, literature instruction, and the way people read is also explored.

Literature for Young Adults

ENGL 8071 ***3 cr.***

The course is a survey of current books written for middle school, junior high, and high school students as well as a study of strategies for teaching them. The emphasis is on new books available in paperback that are suitable for classroom use or recreational reading. This course's multimedia web page provides support materials as well as a means to share responses and teaching ideas. Strategies for encouraging student engagement with literature, for pairing young adult novels with the classics, and for sharing responses are modeled by the professor and evaluated by students. There are opportunities for students to develop teaching materials for use in their own classroom as well as to become contributors to the *Reader's Review of Young Adult Literature*.

Process Writing Across the Curriculum

ENGL 8076 ***3 cr.***

Writing across the curriculum provides learners with the opportunity to investigate their own thinking as they go beyond the surface level of text or subject matter to arrive at meaningful connections and insights. Students investigate creative approaches to introduce current research journals into such areas as portfolios, audience, persona, and assessment. Working independently and in cooperative learning groups, participants immerse themselves in the reading/writing/thinking process, create their own portfolios, design mini-lessons, conduct research, and share their learning and thinking.

Literature and Film

ENGL 8085 ***3 cr.***

This is an introduction to the relationship between literature and film through the critical study of each medium. Special consideration is given to matters of characterization, narration, plot, setting, theme, and tone in written works and films. Students are introduced to conventions of the documentary and fictional film, principles of scriptwriting, and the elements of formal screen production.

Practicum

ENGL 8090 ***6 cr.***

Student teaching experience is offered to give practical classroom experience to those degree students who have not satisfied the state requirements for certification.

Curriculum and Technology

ENGL 8250 ***3 cr.***

This course looks at the integration of educational technology in the classroom, and its relationship to learning theories. Mac and IBM computer hardware, and interfaces for classroom inquiry including video and microscope cameras, digital image capture, scanners, and computer projection panels are examined. Students learn similarities between standard software programs available for writing, computation, and data analysis. It includes a survey of software for studies, ranging from Encyclopedias on CD-ROM to programs that are specific to the study of various topics in science, art literature, math, and language. The class explores the use of the internet as a classroom resource, the hardware and software necessary to get on line, search engines, browsers, URLs, online journals, education web sites, online interest groups, and how to design a web page.

Curriculum Design and Development

ENGL 8260 ***3 cr.***

This course is designed to provide students with knowledge and skills of the curriculum development-revision process. In collaborative groups students review, revise and expand the curriculum and assessment procedures in order to integrate current research findings and education reform initiatives. Students articulate a general Curriculum map contextually appropriate for grade-level content as they plan for integrating content with social, behavioral, processing, thinking skills and Curriculum frameworks. Students design an integrated 9-12th grade curriculum that aligns content standards across disciplines. Finally, interdisciplinary groups design an integrated curriculum unit.

Literary Theory: Finding and Defining Texts

ENGL 9000 ***3 cr.***

The course surveys theories of literature with emphasis on contemporary (re)visions of various canons of literature. Study includes a brief historical survey, but focuses on such contemporary practices as New Historicism, feminist theory, and reader response criticism. Practical applications in the classroom and in one's own reading (for example, designing a curriculum, reading multicultural materials, and seeing the classics anew) guide class discussion.

Chaucer
ENGL 9010 ***3 cr.***
Students read Chaucer's major works, beginning with early poems and lyrics, then concentrating on *The Canterbury Tales* and *Troilus and Criseyde*. Focus is on the Middle English Language and critical approaches as well as literary analysis.

The Literature of the Middle Ages
ENGL 9011 ***3 cr.***
The course surveys selected texts from the Middle Ages, starting with Beowulf and Old English lyrics, and including representative Middle English, Celtic, Anglo-Norman, and French works. Various genres are covered, including epic, lyric, drama, Arthurian romance, legend, religious verse, and satire. All works except the Middle English are read in translation.

Shakespeare's Major Plays
ENGL 9020 ***3 cr.***
The course consists of studies in comedy, tragedy, and romance. Among the plays studied are Romeo and Juliet, Julius Caesar, King Lear, Hamlet, Othello, Twelfth Night, A Midsummer Night's Dream, and The Tempest.

Revisiting the Romantics
ENGL 9035 ***3 cr.***
This course emphasizes the work of romantic era writers (1780-1830). Students examine the key aesthetic and political debates of the time through an analysis of essays, poetry, novels, and plays. Authors include such writers as Mary Wollstonecraft, Mary Shelley, William Godwin, and Dorothy and William Wordsworth.

The Quiet Revolution: Nineteenth-Century American Women Writers
ENGL 9036 ***3 cr.***
This course considers texts written by the "d----d mob of scribbling women," including Matilda Joslin Gage, Sarah Orne Jewett, Harriet Jacobs, Harriet Beecher Stowe, Ida B. Wells and others. Students learn how these women used essays, magazine and newspaper columns, novels, short stories, and slave narratives as a public forum for discussing issues of the day, which included sexism, racism, and the reform of labor, marriage, property, voting, and education.

American Renaissance: Works by Hawthorne, Poe, and Others
ENGL 9037 ***3 cr.***
This course looks at fiction and poetry by several great American writers of the mid nineteenth century. Readings will explore the interaction of value and style, the treatment of nature and science, and the differences between men and women in selected works.

Mark Twain and American Humor
ENGL 9040 ***3 cr.***
This course explores Southwestern humor leading up to the writings and career of Mark Twain. The humorists who share the Twain legacy are also studied.

American Art and Literature 1800-1860
ENGL 9046 ***3 cr.***
This course explores the relationship between the plastic art and the literary art of the new nation. Students learn to identify the forces that inspired imaginative production in both art forms during the period that attempted to define the "American" style. Slides of paintings as well as literary texts are studied.

Women in European Literature
ENGL 9047 ***3 cr.***
At the center of this course are texts by women authors from various European countries written during the eighteenth through the twentieth centuries. Students consider the kinds of writings published by women, the audiences women wrote for, their motivations for writing, and the accessibility or popularity of their writings. Close analysis and discussion of individual texts lead students to consider variations of these factors between countries and time periods.

Multicultural Children's Literature
ENGL 9048 ***3 cr.***
This course focuses on contemporary multicultural children's literature and requires students to learn and apply appropriate interpretive strategies for understanding the texts and cultural contexts. Students gain and demonstrate a firm understanding of the major critical issues regarding multicultural children's literature and formulate and support personal responses to these issues.

The World Novel to 1914
ENGL 9049 ***3 cr.***
This course examines significant novels outside the American/English literary canon representing the development of the form. Authors selected include comic (Soseki), romantic (Sand), realist (Balzac, Flaubert), and psychological (de Assis, Micha'lis). Students explore the historical, cultural, political, and social milieu that shaped each writer and text.

20th-Century British and American Poetry
ENGL 9052 ***3 cr.***
This seminar explores the works of poets such as Auden, H.D., Lowell, Plath, Roethke, Kinnell, Rich, Heaney, Bishop, Walcott, and Hughes. Students make presentations on assigned topics. Attendance at live and filmed poetry readings is a feature of the course.

Modern Irish Literature
ENGL 9055 ***3 cr.***
This seminar concentrates on two of the following three groupings: major works by three Irish poets such as Yeats, Heaney, Muldoon; major works by three Irish fiction writers such as Joyce, O'Connor, O'Faolain; major works by three Irish playwrights such as Synge, O'Casey, Friel.

Contemporary World Literature
ENGL 9058 ***3 cr.***
Particular emphasis in this course is placed on authors who write to effect changes in our perceptions of "the other" so we may understand "the otherness" of ourselves. Authors studied include: Conrad, Forster, Achebe, Gordimer, Fugard, et al.

The Shapes of Modern Drama
ENGL 9059 ***3 cr.***
In this seminar students read plays from such traditions as the realist, the symbolist, and the expressionist, including works by Yeats, Pirandello, Beckett, Pinter, and Mamet.

Women Writers Around the World: Stories of Maturation and Initiation

ENGL 9060 ***3 cr.***

Students take a global approach to women's stories of growing up found in auto-biographies, novels, short stories, and poetry. An invigorating exploration, this course includes works by authors such as Toni Cade Bambara, Nawal El Saadawi, bell hooks, Clarice Lispector, Anchee Min, Georgina Valoyce Sanches, Esmeralda Santiago, Leslie Marmon Silko, Jeanette Winterson, and Banana Yoshimoto. Much of this literature is appropriate for use in the high school classroom.

Africa Through the Novel

ENGL 9061 ***3 cr.***

Students read, examine, and discuss texts by African writers who have (re)constructed, in their imaginary worlds, specific and multiple visions of African life. All texts were written in the twentieth century, although some portray periods prior to that time. Emphasis is on characteristics of style, politics, and culture evoked in these works and aspects of contemporary literary theory pertaining to African literature today.

Three American Literatures: Native American, African American, and Asian American

ENGL 9064 ***3 cr.***

The focus of this course is on relationships between culture and society as works by three groups of Americans are considered against historical, ethnic, and cultural backgrounds. Discussion may concern questions of identity, family, initiation, politics and ideology, education, gender, aggression, and violence. Special attention is paid to the novel as a popular art form in aesthetic and social terms.

Women in Contemporary Society

ENGL 9065 ***3 cr.***

Women as a force in society are the focus of this cross-discipline course. The political, social, and economic issues concerning women are subjects for student research. Areas explored include anthropology, business, education, history, literature, philosophy, psychology, sociology, science, and the arts. Students also consider the role of cultural diversity (both nationally and internationally) in the scholarship of women.

Latin American Novels

ENGL 9066 ***3 cr.***

The roles of church, politics, family and nature are discussed in this sampling of Latin American fiction. Comparisons will be made to North American and/or English Literature when useful. The course offers an introduction to the literature through the major themes of different geographical and cultural areas of Latin America.

Asian English Literature in Cultural Context

ENGL 9067 ***3 cr.***

This course covers selected works, mostly fiction and memoir, of American, Canadian, and British writers of Chinese, Japanese, and Korean ancestry. We examine how the authors explore questions of identity and cultural and family dynamics, and how works by ethnic minorities relate to various literary traditions. We gain familiarity with the Asian cultural framework of the writers in order to understand differences with western traditions and expectations. Some introduction to poetry, drama, folktales, visual arts, music and film.

Topics Course

ENGL 9075 ***3 cr.***

Course content varies from semester to semester, reflecting contemporary issues in the discipline and depending upon student and faculty interest.

Independent Study

ENGL 9080 ***3 cr.***

Independent study provides special individualized study under close supervision for students excelling in scholarship.

Master's Thesis Research

ENGL 9100 ***3 cr.***

The student researches in depth a topic of his or her own interest in English. Students who successfully complete this course should enroll in ENGL 9200 Master's Thesis Writing.

Prerequisite: Signed permission from the Graduate English Chair.

Master's Thesis Writing

ENGL 9200 ***3 cr.***

Using the research developed in the Master's Thesis Research course, the student will write a master's thesis under the guidance of a faculty member and following the *Graduate English Thesis Guidelines.*

Prerequisite: Signed permission from the Graduate English Chair and Master's Thesis Research.

Clinical Experience

ENGL 9400 ***6 cr.***

See BIOL 9400 for course description.

Internship

ENGL 9500 ***6 cr.***

The Internship is a clinical, capstone experience allowing full integration and application of content knowledge and pedagogical theory and practice. It should incorporate all standards specific to the discipline in which certification is sought as well as all common standards for classroom teachers (section 7.04). Students must fulfill a minimum of 400 clock hours or one full semester on site under the auspices of the college.

History

From Weimar to Hitler: Germany 1918-1945

HIST 7010 ***3 cr.***

This class, run as a seminar with joint student/faculty leadership, traces the developments that led to the collapse of the Weimar Republic and the National Socialist acquisition of power in Germany. Issues covered include social and economic trauma after the First World War, the relationship between state and society in the Weimar Republic, political fragmentation, the reaction against modernist culture, the National Socialist power, everyday life in National Socialist Society, women and National Socialism, racist ideology, and extermination.

The Vietnam War and U.S. Society

HIST 7020 ***3 cr.***

This course is designed to educate and prepare students about the war in Vietnam and its effects on U.S. society. Topics include: the history and culture of Vietnam before U.S. involvement; historical coverage of U.S. diplomatic involvement in Vietnam; the military aspects of the war; various components of the Vietnamese internal struggle, including the North and South Vietnamese Armies and the National Liberation Front (the Viet Cong); the effect on the U.S. military at home and abroad; the anti-war movement; the effect of the war on the various presidencies (Eisenhower, Kennedy, Johnson, Nixon and Ford); the war and the Civil Rights and the women's movement; and the cultural expressions of the war, from anti-war songs to current films like "Platoon" and "Apocalypse Now." The course is grounded in an historical approach and also uses literature, film, and music.

The U.S. Women's Rights Movement Since 1820

HIST 7150 ***3 cr.***

The class, run as a seminar with joint student/faculty leadership, traces the development of the women's rights movement from its roots in the abolitionist movement to its present status in the feminist movement. Issues covered are abolitionism, woman suffrage, temperance, labor, peace, reproductive rights, and general rights. Students investigate issues, ideologies, strategies, tactics, and personalities. Research involves biographies, organizational histories and/or analysis of political theories and strategies. The course provides students with the knowledge to incorporate new teaching materials about women's history into U.S. History courses and to gain a broader understanding of women as actors in U.S. politics.

Beyond Antiques: Artifacts and History

HIST 7200 ***3 cr.***

American material culture—personal and domestic artifacts, buildings, and historic landscapes can tell us much about life in the past. Through a combination of readings, object studies, and field trips, students survey different modes of investigation: social and cultural history, history of technology, cultural geography, historical archaeology, folklife studies, art history, and decorative arts studies. The seminar tests the applicability of these disciplines, methods, and theories to specific spheres of activity and thought, including community, class, work, house and household, clothing, dining, landscape, and play.

Judaism and Christianity (300 BC to 500 CE)

HIST 7250 ***3 cr.***

This course offers an overview of the formative period of development of Judaism and Christianity, from 300 BCE to 500 CE. Causes and conditions for the Christian split off from Judaism and its transformation into the single most powerful religious movement in Europe will be approached from the social developments in many regional centers, using archeology and social histories of indigenous peoples. Primary readings in texts of the period (translated into English) as well as secondary literature in archeology and history will provide vantage points to examine various aspects of social unrest, competition among ethnic minorities and factors contributing to the economic dissolution of the Roman Empire.

Middle East History

HIST 7260 ***3 cr.***

This course surveys Middle Eastern History from its beginnings to the present. The course explores religion, politics, social institutions and gender history of Muslim civilizations as its expansion and confrontation with other civilizations sharpened its own self-image. The methodology of this course is interdisciplinary, including archeology, comparative literature, cultural and social history, and religious studies. Particular attention will he paid to the countries of the Middle East as they developed after World War I and how the various coalitions of the Arab nations were formed in response to Western European interventions. Emphasis will be placed on international politics and the hidden agendas involving defense, oil, economics, and security hetween Western Europe and the Middle Eastern alliances.

Amerindian History

HIST 7270 ***3 cr.***

This course studies Amerindian history from the earliest settlement through the nineteenth century, including, religion, politics, social institutions, and gender history of Amerindian cultures. The methodology of this course is interdisciplinary, including archeology, linguistics and comparative literature, cultural and social history and religious studies. We shall examine the social reasons for the first migrations and local developments in many regional areas using archeology and social histories of various archeological cultures and historic tribes.

Irish History

HIST 7280 ***3 cr.***

This course examines the history of Ireland from its beginnings to the present. It focuses on the cultural history of Ireland as it evolved through a series of waves of immigration since ancient times, which created new cultural mixes and confrontations. The course explores religions, social and political institutions and gender history of this island, which provided a haven for a variety of immigrants from ancient times. The methodology of this course is interdisciplinary, including archeology, comparative cultural and social history, and religious studies. We shall examine the diversity of Irish social and cultural origins and investigate how these contribute to the formation of an Irish identity. The story of competing mores will be examined in the tensions, which are apparent in the modern history of Ireland today.

Modern Russia: Rebirth and Renewal

HIST 7300 ***3 cr.***

The course is a survey of several major historiographical problems in modern Russian history from the reign of Peter the Great through the revolutions of the 20th century. Emphasis is given to cultural and political history and the reading of Russian historical literature (in English).

Historiography

HIST 7450 ***3 cr.***

Historiography or the historian's craft is addressed by considering how a historian discovers facts and formulates them into hypotheses; how the historian's craft has changed over the course of time; and how different historians handle the same era or subject matter. The course enables students to read a piece of secondary source writing and analyze the author's perspective and biases; analyze and understand a primary source document; write a paper using primary source material; understand historians' work within their own historical era; appreciate the subjective as well as objective nature of historical research. In any particular semester, the instructor chooses one of two forms for the course : a) a survey and analysis of various historians' work; their approaches and their tools, or b) a study of historians' methods and a research paper based on primary source research putting these methods into use.

Advanced Methods of Teaching at the Secondary Level I

HIST 7500 ***3 cr.***

See BIOL 7500 for course description.

Advanced Methods of Teaching at the Secondary Level II

HIST 7550 ***3 cr.***

The course is a continuation of HIST 7500. *Prerequisites: HIST 7500, HIST 8260.*

Practicum

HIST 8090 ***1-6 cr.***

Student teaching experience is offered to give practical classroom experience to those degree students who have not satisfied the state requirements for certification.

Curriculum and Technology

HIST 8250 ***3 cr.***

This course looks at the integration of educational technology in the classroom, and its relationship to learning theories. Mac and IBM computer hardware, and interfaces for classroom inquiry including video and microscope cameras, digital image capture, scanners, and computer projection panels are examined. Students learn similarities between standard software programs available for writing, computation, and data analysis. It includes a survey of software for studies, ranging from Encyclopedias on CD-ROM to programs that are specific to the study of various topics in science, art, literature, math, and language. The class explores the use of the internet as a classroom resource, the hardware and software necessary to get on line, search engines, browsers, URLs, online journals, education web sites, online interest groups, and how to design a web page.

Curriculum Design and Development

HIST 8260 ***3 cr.***

This course is designed to provide students with knowledge and skills of the curriculum development-revision process. In collaborative groups students review, revise and expand the curriculum and assessment procedures in order to integrate current research findings and education reform initiatives. Students articulate a general curriculum map contextually appropriate for grade-level content as they plan for integrating content with social, behavioral, processing, thinking skills and curriculum frameworks. Students design an integrated 9-12th grade curriculum that aligns content standards across disciplines. Finally, interdisciplinary groups design an integrated curriculum unit.

Topics in History

HIST 9000 ***3 cr.***

Course content varies from semester to semester, reflecting contemporary issues in the discipline and depending upon student and faculty interest.

Clinical Experience

HIST 9400 ***6 cr.***

See BIOL 9400 for course description.

Internship

HIST 9500 ***6 cr.***

The Internship is a clinical, capstone experience allowing full integration and application of content knowledge and pedagogical theory and practice. It incorporates all standards specific to the discipline in which certification is sought as well as all common standards for classroom teachers. Students must fulfill a minimum of 400 clock hours or one full semester on site under the auspices of the college.

Interdisciplinary Studies

Women in Contemporary Society

IDIS 9065 ***3 cr.***

This course is an introductory graduate level course on issues of concern to women. The class examines women's economic, social, and political roles in society. Ethnic diversity and international comparisons are also discussed.

Seminar and Internship in Interdisciplinary Studies

IDIS 9400 ***6 cr.***

The Internship is a capstone experience allowing full integration and application of content knowledge and pedagogical theory and practice. Students must fulfill a minimum of 400 clock hours or one full semester on site under the auspices of the college.

Seminar and Graduate Thesis

IDIS 9500 ***6 cr.***

Students meet the requirements of the Graduate Division's Thesis Program. In order to complete this phase of the program, a faculty committee is to be established by the student under the guidance and supervision of the graduate advisor. Note: See thesis description under Program of Study section of the Interdisciplinary Studies Program Description.

Management

Quantitative Methods for Business

MGMT 7001 ***3 cr.***

The course provides an overview for students with a limited quantitative background. The focuses is on statistics and includes algebra and an introduction to calculus. Topics include: sample distribution, confidence intervals, hypothesis testing, analysis of variances, derivatives, logs, linear programming, and regression analysis.

Accounting for Graduate Students

MGMT 7002 ***3 cr.***

The course provides an intensive study of financial and managerial accounting for students with no previous background in accounting. Topics include: collection, reporting, and interpreting of financial information and statements, break even analysis, budgets, manufacturing and standard costing, and variance analysis.

Management of the Global Environment

MGMT 9002 ***3 cr.***

The course provides students with the background to understand global strategic business problems; demands and pressures from governments, unions, consumers, and others in foreign countries as well as from domestic stockholders. Studies emphasize U.S. control of multinational and foreign companies and the effect upon international competition.

Quality Management Theory

MGMT 9008 ***3 cr.***

This course studies the concepts, practices, and methods of modern quality management in both manufacturing and services. Topics include: history, concepts, dimensions of quality, measurement and control, statistical quality control, information systems, and auditing for quality.
Prerequisite: BSAD 3200.

Economic Theory and Managerial Decision Making

MGMT 9020 ***3 cr.***

This course presents the principles, concepts, and tools of economic analysis that are necessary for proper management planning. Its aim is to improve the understanding of how a market economy operates and to familiarize students with the tools that are useful in making economic decisions and in solving economic problems.
Prerequisites: BSAD 2110, ECON 1200.

Accounting Theory

MGMT 9030 ***3 cr.***

The course develops an understanding of the theories and concepts which provide the foundation for accounting.
Prerequisite: admission to Accounting Track or 24 undergraduate credits in Accounting.

Advanced Financial Accounting Issues

MGMT 9032 ***3 cr.***

This course affords students the opportunity to examine current issues including ethics, accounting and auditing research techniques, international accounting issues, and other relevant current topics.
Prerequisite: admission to Accounting Track or 24 undergraduate credits in Accounting.

Selected Topics in Advanced Managerial Accounting

MGMT 9034 ***3 cr.***

Students are introduced to issues in the current environment, such as international influences on U.S. management practices, business ethics, and technology changes and their impact on the managerial structure through a series of readings and cases.
Prerequisite: admission to Accounting Track or 24 undergraduate credits in Accounting.

Accounting Information Systems

MGMT 9036 ***3 cr.***

This course integrates the accounting process into the total information system. Students analyze the problems involved in the design and installation of information systems, including computer feasibility studies and systematizing the clerical functions of an organization. Course material describes the inter-relationship of internal controls, classification of accounts and functions, and reporting to provide relevant information and yet optimize the control function.
Prerequisites: BSAD 1700, MGMT 7002.

Organizational Behavior and Development

MGMT 9040 ***3 cr.***

This course relates the knowledge of human behavior to the problems of organizational life. It examines individual behavior as well as group and social behavior in organizations. The course encourages discussion of the methods of changing behavior through organizational development.
Prerequisite: BSAD 3200.

The Human Resource Function and the Manager

MGMT 9050 ***3 cr.***

This course provides knowledge of the human resource from the manager's perspective. The student develops an understanding of the role of personnel specialists. Topics covered include: job analysis, employee selection, training, appraisal, promotion, and discipline within the context of recent legal developments.
Prerequisite: BSAD 3200.

Management Information Systems

MGMT 9060 ***3 cr.***

This course provides insight into the problem of identifying an organization's informational requirements to facilitate the decision-making process. Topics presented include: an analysis of information systems, communication theory, information flow, methods and procedures for gathering, disseminating, and controlling information.
Prerequisite: BSAD 1700.

Legal Issues in Human Resources Management

MGMT 9070 ***3 cr.***

This course is designed to provide human resources professionals and other managerial professionals with an understanding of labor and employment law, the sources of this law and how they may apply in the employment setting.

Management Theory and Process

MGMT 9080 ***3 cr.***

This course examines management theory as an evolving body of knowledge influencing managerial practices. Management theories are compared and contrasted with the goal of understanding the assumptions and applications of each. Within the context of theoretical models, attention is directed to the differences in the environment in which firms must operate.
Prerequisite: BSAD 3200.

Production and Operations Management

MGMT 9090 ***3 cr.***

The course covers system design and layout, job design and work methods, plant location and product development, scheduling and methods of control. The quantitative management techniques of capital budgeting, forecasting inventory methods, program evaluation review techniques (PERT), and decision theory are utilized.
Prerequisite: BSAD 3200.

Business and Society
MGMT 9100 ***3 cr.***
The course studies the various external environmental factors which affect managerial decisions. The course views the environment as a complex set of interrelated economic, legal, political, social, and cultural influences, which impact the organization through its public or constituencies. Through case analysis the student gains insight into the complicated interrelationships that exist between the organization and its environment.
Prerequisites: BSAD 3500, ECON 1200.

Legal Environment of Business
MGMT 9130 ***3 cr.***
This course considers the legal questions arising out of doing business nationally and internationally. It is a study of the interrelationships among laws as they affect individuals and business organizations. The course provides the student with an awareness of how legal problems and their solutions can influence the direction of a business.
Prerequisite: BSAD 3500.

Marketing Management
MGMT 9160 ***3 cr.***
The course embarks on a detailed study of concepts and procedural alternatives in the delineation of the market target. In addition, the course covers the development and implementation of the marketing mix and the control and analysis of the total marketing effort.
Prerequisite: BSAD 3300.

Corporate Finance
MGMT 9170 ***3 cr.***
The course examines principles of decision analysis in management of current assets, estimation of requirements for short term funds, and valuation of capital budgeting and merger proposals.
Prerequisite: BSAD 3400, MGMT 7001, MGMT 7002.

Accounting Practices for Managers
MGMT 9180 ***3 cr.***
The course provides a study of financial reporting systems. Emphasis is given to the interpretation and uses of information contained in financial reports.
Prerequisite: MGMT 7002.

Financial Analysis
MGMT 9310 ***3 cr.***
This course provides for an intensive examination of financial accounting theory and practice. It includes the valuation of assets and liabilities, accounting for stockholders' equity, measurement and reporting of earnings, the flow of funds, an investigation of the evolution and current status of accounting theory and financial reporting.
Prerequisites: MGMT 9170, MGMT 9180.

Labor Management
MGMT 9320 ***3 cr.***
This course analyzes the development and impact of collective bargaining on the work force and the organization. Consideration is given to public policy as well as environmental forces. The negotiation and administration of labor agreements is covered.
Prerequisite: MGMT 9080.

Marketing Communications
MGMT 9330 ***3 cr.***
This course presents the elements in the marketing mix that deal with the promotion of goods or services. The course covers advertising, sales promotion, public relations, and publicity. The characteristics of each form of promotion are evaluated with respect to varying market situations. The focus of the course is on the managerial aspects of communication design, development, implementation, and appraisal.
Prerequisite: MGMT 9160.

Selected Topics in Management
MGMT 9450 ***3 cr.***
This course emphasizes trends, current research, and contemporary problems in management. Students research, discuss, and present reports on problems in management. (Course may be repeated twice with different topics with approval of chair. MBA Graduate Committee.)
Prerequisite: core requirements.

Strategic Management
MGMT 9500 ***3 cr.***
This course provides a study of administrative processes dealing with the formulation of policy. Topics covered include strategy formulation, the role of the general manager, and the design of strategic planning systems. Attention is focused on problem identification, problem solving and decision-making. Extensive examination is made of cases involving a variety of institutions in both the public and private sectors.
Prerequisite: at least 21 graduate hours completed or permission of Chair.

Internship in Management
MGMT 9700 ***3 cr.***
Students will intern in a business or other administrative body in a managerial role. The course is in tended to expand the student's knowledge of managerial practices and may not be a continuation of an existing position.
Prerequisite: Completion of 21 graduate level semester hours in MBA program.

Mathematics

Number Theory
MATH 7000 ***3 cr.***
A formal study of the classical theory of numbers including such topics as divisibility, primes, congruency, Diophantine equations, number theoretic functions, and quadratic reciprocity.

Technology in the Classroom
MATH 7100 ***3 cr.***
A study of the various ways in which technology can be used in the K-12 classroom. Students will perform and develop lessons based on calculators, graphing calculators, computer graphing and algebra software (e.g.: Mathematica, Zap-A-Graph, Geometer's Sketchpad), and become familiar with the uses of the Internet in the K-12 setting.

History of Mathematics
MATH 7200 ***3 cr.***
The development of mathematical ideas, from ancient to modern times and their relevance for other fields of knowledge. Special attention is given to several of the most important original writings in mathematics.

Geometry
MATH 7300 ***3 cr.***
A formal study of basic and advanced concepts of Euclidean, non-Euclidean and projective geometry.

Mathematical Modeling
MATH 7400 ***3 cr.***
The designs of mathematical models for solving problems in the physical, social, and life sciences. Emphasis is on the use of mathematics in such problems as traffic flow, group decision making and queuing.

Discrete Algebraic Structures
MATH 7450 ***3 cr.***
A study of discrete algebraic structures. Topics include: Set theory, Boolean algebra, partial orders, equivalence relations, recursions, functions, graph theory, finite automata and combinatorics.

Advanced Methods of Teaching at the Secondary Level I
MATH 7500 ***3 cr.***
See BIOL 7500 for course description.

Advanced Methods of Teaching at the Secondary Level II
MATH 7550 ***3 cr.***
See BIOL 7550 for course description.
Prerequisites: MATH 7500, MATH 8260.

Practicum
MATH 8090 ***3 cr.***
See BIOL 8090 for course description.

Analysis
MATH 8100 ***3 cr.***
A careful development of the core analysis topics of limits, continuity, differentiation, integration, and sequences and series. Both the real number setting and the complex numbers will be considered.

Probability
MATH 8200 ***3 cr.***
Topics include discrete and continuous random variables, expectations, variance, covariance, probability density functions, moment generating functions, and classical probability distributions.

Curriculum and Technology
MATH 8250 ***3 cr.***
This course looks at the integration of educational technology in the classroom, and its relationship to learning theories. Mac and IBM computer hardware, and interfaces for classroom inquiry including video and microscope cameras, digital image capture, scanners, and computer projection panels are examined. Students learn similarities between standard software programs available for writing, computation, and data analysis. It includes a survey of software for studies, ranging from Encyclopedias on CD-ROM to programs that are specific to the study of various topics in science, art literature, math, and language. The class explores the use of the internet as a classroom resource, the hardware and software necessary to get on line, search engines, browsers, URLs, online journals, education web sites, online interest groups, and how to design a web page.

Curriculum Design and Development
MATH 8260 ***3 cr.***
This course is designed to provide students with knowledge and skills of the curriculum development-revision process. In collaborative groups students review, revise and expand the curriculum and assessment procedures in order to integrate current research findings and education reform initiatives. Students articulate a general Curriculum map contextually appropriate for grade-level content as they plan for integrating content with social, behavioral, processing, thinking skills and Curriculum frameworks. Students design an integrated 9-12th grade curriculum that aligns content standards across disciplines. Finally, interdisciplinary groups design an integrated curriculum unit.

Abstract Algebra
MATH 8300 ***3 cr.***
A study of algebraic structures including groups, rings, integral domains and fields. Topics include homomorphisms, factor rings, and factorization domains.

Topics in Advanced Mathematics
MATH 8900 ***3 cr.***
Courses having a more narrow focus or those taught on an irregular basis may be offered. New courses may be taught on an experimental basis under this title.

Clinical Experience
MATH 9400 ***6 cr.***
See BIOL 9400 for course description.

Internship
MATH 9500 ***3 cr.***
See BIOL 9500 for course description.

Nursing

Graduate nursing courses are open to matriculated nursing majors only, or by special permission of the graduate chairperson.

Nursing with Diverse Populations

NURS 7000 ***1 cr.***

This course focuses on concepts of culture, ethnocentrism, and diversity. The impact of cultural sensitivity on role enactment as an advanced practitioner is explored. Case studies are used to facilitate examination of values and beliefs.

Nursing Theory

NURS 7200 ***3 cr.***

The course examines the process of theory development in nursing as a necessary tool to provide guidelines for advanced practice, as well as to foster a deeper understanding of the discipline as a whole. The concept of diversity in relation to theories is also included. Students have the opportunity to evaluate current theories in nursing and to explore one theory in depth.

Advanced Clinical Concepts

NURS 7300 ***2 cr.***

This course provides the opportunity to validate current clinical skills and develop advanced professional decision-making. Clinical issues, such as performance evaluation, collaboration, physical assessment, and ethical considerations are addressed. A clinical component provides the opportunity to increase skills in critical thinking, processing data, and clinical decision-making. (Clinical Component)
Prerequisite: NURS 7000 and documented basic health assessment skills.

Contexts and Roles for Advanced Practice

NURS 7400 ***3 cr.***

Students acquire a framework for understanding the interplay of political, social, and economic factors in health service delivery and their relationship to the advanced practice role in nursing. The focus is on initiating and facilitating change in health care and nursing systems. Topics include: health care economics, health planning and policy, diversity in health care delivery, use of health status indicators for risk assessment of individuals and groups, informatics, role theory application to role assimilation, role creation, role negotiation, and educator advocate, consultant, and researcher.

Role Theory: Application to Advanced Practice

NURS 7500 ***2 cr.***

This course focuses on role theory and its application to role assimilation and enactment as an advanced practice nurse. Research and support of role theory is examined. Current and potential dimensions of the advanced practice role are explored in the context of clinicians, educators, quality controllers, consultants, administrators, and researchers. Role creation and negotiation are addressed.

Nursing Research

NURS 7700 ***2 cr.***

This course provides students with an overview of the design and methodology of qualitative and quantitative research as applied to professional nursing practice. Topics of study include: critical analyzing and evaluating research literature, non-experimental, quasi experimental research design, phenomenological, grounded theory, and ethnographic qualitative design, analysis and interpretations of findings including the application of statistical methods in quantitative data analysis. Ethical considerations will be discussed along with implications for professional practice.

Qualitative Nursing Research

NURS 7800 ***2 cr.***

This course concentrates on skill development in the application of qualitative research methodologies. The relationship between basic assumptions underlying qualitative research and strategies for data collection, analysis, and interpretation of findings is explored. Qualitative research is critiqued focusing on scientific merit and ethical and legal considerations.

Epidemiological and Experimental Nursing Research

NURS 7900 ***2 cr.***

In this course students learn to apply statistical methods to the study of clinical and community health problems. Topics include sources of epidemiological data, accuracy of biostatistical measures, appraisal of cause-effect relationships, and design of case-control and retrospective studies.
Prerequisite: undergraduate statistics course.

Introduction to Forensic Nursing

NURS 8000 ***2 cr.***

This course establishes the foundation for forensic decision making in advanced nursing practice with an emphasis on a holistic approach to living victims and perpetrators. The relationship between sociocultural factors and violence is explored. This course also includes an incisive exploration of the principles and philosophies of clinical forensic nursing as well as the role of the forensic nurse in the scientific investigation of violence, trauma, medical-legal and ethical-legal issues. Topics include assaults, accidents, homicides, suicides, custody, documentation, expert witness testimony, and anatomical gifts. Students learn basic forensic health assessment.
Prerequisite: majority of core courses.

Scientific Foundations for Forensic Nursing Interventions

NURS 8130 ***3 cr.***

This course provides a comprehensive overview of specialized topics in clinical forensic practice as a foundation for the advanced practice nursing role. Areas of exploration will include physical assessments and autopsy findings in forensic pathology, clinical laboratory tests, and pharmacological usage. The complimentary roles of different professions in medical-legal investigative systems in relation to trauma and causes of death will also be identified.
(Clinical Component)

Forensic Nursing: Caring for Victims and Perpetrators, I

NURS 8200 ***3 cr.***

This is a two-course sequence identifying the role of the forensic nurse in the care of victims and perpetrators. Theories are presented on numerous topics including: (1) psychiatric disorders resulting in forensic involvement, focusing on individuals diagnosed with personality disorders, psychotic thinking and drug addictions; (2) violent behavior resulting in sexual assault, domestic violence, gang violence, and deviant cults; (3) trauma and post-traumatic stress affecting the victim of violence , and (4) children in danger of becoming victims and/or perpetrators. Etiologies and interventions including judicial, psychological, cultural, genetic, and social are discussed. The legal, ethical, clinical, and advocacy responsibilities of the advanced practitioner are key concepts emphasized throughout these courses. (Clinical Component)

Prerequisites: NURS 7200, NURS 7300, NURS 7400, NURS 7500, and NURS 8000.

Forensic Nursing: Caring for Victims and Perpetrators, II

NURS 8300 ***3 cr.***

This is a two-course sequence identifying the role of the forensic nurse in the care of victims and perpetrators. Theories are presented on numerous topics including: (1) psychiatric disorders resulting in forensic involvement, focusing on individuals diagnosed with personality disorders, psychotic thinking and drug addictions; (2) violent behavior resulting in sexual assault, domestic violence, gang violence, and deviant cults; (3) trauma and post-traumatic stress affecting the victim of violence , and (4) children in danger of becoming victims and/or perpetrators. Etiologies and interventions including judicial, psychological, cultural, genetic, and social are discussed. The legal, ethical, clinical, and advocacy responsibilities of the advanced practitioner are key concepts emphasized throughout these courses. (Clinical Component)

Prerequisites: NURS 7200, NURS 7300, NURS 7400, NURS 7500, NURS 8000, and NURS 8100.

Research Project

NURS 9010 ***2 cr.***

This course focuses on the application of the research process in the clinical practice related to the student's specialty area. Emphasis is on the completion of a research project under the guidance of faculty.

Prerequisite: all courses.

Research Thesis

NURS 9010 ***3 cr.***

This course focuses on the application of the research process in clinical practice related to the student's specialty area. Emphasis is on the completion of a research thesis under the guidance of faculty.

Practicum in Forensic Nursing

NURS 9500 ***3 cr.***

In this capstone course students select one (or more) area(s) of nursing practice to pursue in greater depth. After prior consultation with the program faculty, students find a clinical placement that gives them the opportunity for role negotiation and role development in the forensic nursing practicum. During the practicum priority is placed on the development of leadership roles and interpersonal and psycho-motor skills needed to serve a selected client population under the preceptorship of an expert nurse. Nursing competence in primary, secondary, and tertiary prevention activities is a required outcome. (Clinical Component)

Occupational Education

Seminar and Practicum in Vocational Education/Special Education

OCED 6002 ***3 cr.***

Students complete a practicum or internship in an approved setting for individuals with special needs. Students are assisted in implementing the various facets of their role within a given setting. Visitations by student advisor are planned not only to observe the competencies being demonstrated but to meet with school administrators in defining the role and functions. Practicum seminar is designed to assist the total group in dealing with current concerns and issues and to allow students to learn from the experiences of each other.

Promoting Positive Social Behavior for Students with Special Needs in Vocational Education

OCED 6003 ***3 cr.***

The course provides familiarity with the continuum of services required for students with special needs in all school settings. The modifications of approach and teaching techniques that make vocational education accessible to all students are discussed in depth. A case study is required of each student in the course.

Students with Special Needs in Vocational Technical Education

OCED 6004 ***3 cr.***

The course traces the development of Special Needs Programs with emphasis on the identification and understanding of special needs students in vocational schools. Particular attention is given to teaching techniques and administrative organization patterns utilized in a vocational school.

Note: This is a required course for candidates seeking either Massachusetts Department of Education approval as a vocational technical instructor or Special Ed/Voc Ed Mini-approval.

Strategies and Methods for Teaching Students with Special Needs

OCED 6005 ***3 cr.***

The course uses a practical approach to planning instruction for special needs students in the regular class within a vocational school setting. Using a framework for applying theory in practice, teachers develop and/or attempt strategies that are applicable to their classrooms.

Implementation and Evaluation of Education Plans for Students with Special Needs

OCED 6006 ***3 cr.***

The course provides experience in interpreting educational prescriptions for implementation within vocational training programs. Each student designs an individualized instructional plan describing all materials, recommended methodology, and techniques of evaluation.

History and Philosophy of Occupational Education

OCED 7000 ***3 cr.***

The course studies the leaders, organizations, and movements that have contributed to the development of occupational education in the United States. Particular attention is given to the philosophies of past and present, along with the issues and problems that have affected occupational education.

Seminar in Occupational Education

OCED 7050 ***3 cr.***

The seminar is a critical study of selected current problems in occupational education. Participants apply recent readings, reports, products, and research as tools to analyze strategies for strengthening the delivery of occupational education within a variety of settings. The group may also accept appropriate field-based projects which impact or otherwise address critical occupational education concerns.

Supervision in Occupational Education

OCED 7100 ***3 cr.***

This course deals with several aspects of the role of supervisory personnel to demonstrate how educational supervision is a carefully structured leadership with responsibilities related to the improvement of instruction. In the context of a supervisory role, students examine in-service training, inspection, staff guidance, research, and evaluation of personnel and curriculum concerns. Various levels of supervision and organization patterns are analyzed.

Evaluation in Occupational Education

OCED 7150 ***3 cr.***

This course in educational evaluation is designed for graduate students who are pursuing an advanced degree in the field of industrial technology education, vocational technical education, or a related area. Students receive instruction relating to the development and evaluation of written achievement tests. Further teaching is presented relative to basic descriptive statistics and parametric techniques.

Public School Laws Relating to Occupational Education

OCED 7200 ***3 cr.***

The course is a study of federal and state laws pertaining to occupational education. Particular attention is given to the legislative process as it relates to current school law and to the judicial process in its interpretation of school law.

Research and Statistics in Occupational Education

DCED 7250 ***3 cr.***

This course is designed to enable occupational educators to plan research, write research reports, and interpret statistical occupational education data. Each student is expected to demonstrate proficiency in educational research by designing a research project pertaining to one or more components of occupational education.

Curriculum Development in Occupational Education

OCED 7300 ***3 cr.***

In this class, emphasis is placed upon the teacher as an innovative designer of strategies for planning curriculum. The process of designing and accessing model curriculum projects in occupational education is examined and explored in depth. Various curriculum development models are reviewed, evaluated, and discussed.

Public School Finance in Occupational Education

DCED 7350 ***3 cr.***

This course examines the basic accounting systems, state laws pertaining to finance, federal funding, and laws and procedures regarding funding application approval. The course also offers information on central reimbursements from federal and state levels that affect education.

Advanced Methods of Teaching in Occupational Education

DCED 7400 ***3 cr.***

The course is designed to review a detailed treatment of the nature of occupational education, the findings of modern learning theory, and the impact these considerations have upon modern occupational education teaching.

Organization and Administration of Vocational Guidance

DCED 7410 ***3 cr.***

This course provides the administrator, counselor, and teacher with a working knowledge of the various tools, techniques, and practices which comprise a unified guidance organization.

Administration of Cooperative Education Programs

OCED 7420 ***3 cr.***

This course analyzes current policies, practices, and methods of conducting cooperative occupational education programs. An examination of national, state, and local program administrative procedures is made through an analysis of literature related to cooperative occupational education.

Effective Teaching of Special Needs Students in the Vocational Environment

DCED 7430 ***3 cr.***

This course is designed to review and focus on issues in vocational education that are equated with quality education and quality teaching. Although these issues are presented individually, the topics, when combined in practice in actual classrooms and shops, give a clear understanding of teaching and learning in a vocational situation.

Professional Development Workshop

OCED 7440 ***2 cr.***

This state-of-the-art workshop is for Occupational/Vocational Educators seeking to fulfill the thirty hour Professional Development requirement of the Division of Occupational Education.

Vocational Special Needs Seminar

OCED 7450 ***3 cr.***

This course deals with current issues related to Vocational Special Needs. Class discussions are also concerned with local, state, and national special needs topics.

Computer Aided Drafting I

OCED 7600 ***3 cr.***

A basic course in automated drafting emphasizes the utilization of computer assisted drafting (CAD) to generate typical manufacturing drawings. Knowledge gained through this course allows students to apply computer-assisted drafting to a wide range of technical drawings used in other fields such as architecture and topography.

Computer Aided Drafting II

OCED 7610 ***3 cr.***

A continuation of OCED 7600.

History of Technology
OCED 7620 ***3 cr.***
The identification, definition, and understanding of technology as the subject matter of industrial arts is analyzed. Special emphasis is placed upon the implementation of a technology-based industrial arts program at the secondary level.

Principles of Automated Manufacturing
OCED 7630 ***3 cr.***
The course studies the automation in manufacturing emphasizing computer control of production functions. Automated and manual approaches are compared and techniques for implementing automation are reviewed. Students are provided with the necessary computer background to support hands-on experience with assembly robots.

Principles of Automated Manufacturing II
OCED 7640 ***3 cr.***
This course provides further consideration of automated manufacturing including production processes. More detailed study of present generation robots and potential advances is included.

Quality Control
OCED 7650 ***3 cr.***
The principles and techniques of statistical quality control are developed and applied to typical manufacturing situations. Special consideration is given to quality control in automated manufacturing environments.

Material and Process Cost Estimating
OCED 7660 ***3 cr.***
The philosophy, principles, and practices of material and process cost estimating are studied, stressing data development and application methods for operation, product, and project analysis. Topics such as labor analysis, material analysis, operation, and product estimating are included.

Independent Study
OCED 9000 ***1-6 cr.***
Individualized study under close supervision for superior students.
Prerequisite: permission of Advisor.

Physical Education

Developing Health Education Materials in the Schools
PHED 7001 ***3 cr.***
The purpose of the workshop is to acquaint school personnel with materials and resources available for the development of health education programs. Health topics include: nutrition, personal hygiene, bicycle safety, drugs, smoking, alcohol, cancer, heart disease, physical therapy, podiatry, physical fitness, and certification in basic cardiopulmonary resuscitation. These topics are discussed by several guest speakers representing national and local health organizations.

Professional Development

Effective Instructional Processes: Theory to Practice
PDEV 9000 ***6 cr.***
Participants study current research on transdisciplinary, multi-cultural curricula that incorporate tactics for teaching critical thinking in the curricula. Practical application in the classroom is facilitated through the study and practice of cooperative learning strategies and peer coaching techniques. Through its design, implementation, and evaluation, this course models and examines effective practices for adult learners.

Staff Development Programs: Design, Management, and Evaluation
PDEV 9200 ***6 cr.***
Students study the varied purposes and potential outcomes of staff development and in-service programs offered to teachers in a public school setting. The steps involved in needs assessment, program design, adult instructional methodologies, and program monitoring and evaluation procedures are studied and practiced. Each student, functioning as a member of a team, designs a twelve week staff development course to implement in the parent school system. The staff development courses offered by the graduate students carry system assigned, in-service credits and are related to the goals and objectives of the parent school system. Participants enrolled in these staff development courses are fellow teachers in the school system.

Research Seminar in Education
PDEV 9300 ***3 cr.***
The purpose of this course is to enable students to have a working knowledge of educational research. The content areas covered include the nature of social science research, methods, procedures, related statistics, interpretation of research, and research plans. Students learn through a variety of methods, including selected readings, written homework, assignments, class lectures, presentations and discussions, and research.

Seminar and Internship in Staff Development

PDEV 9400 ***6 cr.***

During this final academic/application phase, the graduate students implement a professional development program for teachers and support staff in their school system. The intern assesses the needs of the staff, consults with peers and colleagues about the design of a professional development program, designs and implements the program, and evaluates its effectiveness. In addition to the internship, the students participate in seminars, which take place on-location throughout the semester program.

Graduate Thesis

PDEV 9500 ***3 cr.***

Students must meet the requirements of the Graduate Division's Thesis Program. In order to complete this phase of the program, a faculty committee is established by the student under the guidance and supervision of the graduate advisor.

Psychology

Applied Statistics for Counselors

PSY 5530 ***3 cr.***

A prerequisite undergraduate course for students applying to the M.S. in Counseling Program.

Students are introduced to basic concepts in statistics and probability with emphasis on the testing of statistical hypotheses using the methodology of inferential statistics.

Prerequisite: PSY 1100. Does not count for Psychology major or minor.

School Counseling: Professional Practice, Standards and Ethics

PSY 7000 ***3 cr.***

The philosophy, structure and dynamics of schools and the school systems will be explored. The roles of various school personnel, especially School Counselors, in providing and coordinating services to children will be studied. Consulting services to children will be emphasized. Legal and ethical issues involved in the practice of Counseling in schools will be examined.

Prerequisites: PSY 1100, PSY 2350, and a course in the Psychology of Development.

Mental Health and Family Counseling: Professional Practice, Standards and Ethics

PSY 7005

This course addresses the professional orientation, including the history of mental health counseling and marriage and family and family counseling within the context of health and human services systems; mental health public policy and legislation; consumer needs assessment and advocacy; and the role of professional associations. Professional standards of training, practice and licensure are covered. The legal and ethical issues that affect the professional practice of counseling; such as reporting, confidentiality, duty to warn and ethical standards are explored. Professional practice issues such as malpractice, dual-relationships, client rights and professional responsibilities are examined.

Prerequisite: PSY 1100, PSY 2350, and a course in the Psychology of Development.

Counseling Theories

PSY 7010 ***3 cr.***

Participants in this course examine the major paradigms and theoretical approaches to counseling, including Organic-Medical, Psychoanalytic, Person-Centered, Behavioral, Rational-Emotive/Cognitive, Systemic/Family, and Group. In addition to increasing participants' understanding of the therapeutic process, the course focuses on increasing self-awareness of personal characteristics that may influence professional effectiveness. Students submit a Personal Statement Paper and compile a Counseling Referral Directory.

Note: performance in this course is part of the pre-candidacy screening process for matriculation into the Graduate Program in Counseling.

Prerequisite: PSY 1100.

Group Dynamics

PSY 7020 ***3 cr.***

This course explores the cognitive, affective, and behavioral processes within the context of groups. Part one of the course is experientially based and requires students to participate in an actual group process. Part two provides an analysis of group dynamics including an examination of the experiential component. Course emphasis is on the experiential and theoretical bases of group dynamics with the development of participant intra- and interpersonal awareness.

Note: performance in this course is part of the pre-candidacy screening process for matriculation into the graduate program in counseling.

Prerequisite: PSY 1100.

Issues in Development: Counseling Children and Adolescents

PSY 8010 ***3 cr.***

This course equips students with a strong background in developmental events of childhood and adolescence in order to enhance their understanding of a young client's point of view. Students are asked to relate developmental issues to the kinds of problems children and adolescents present to the counselor. Theories of personality are reviewed, and students are required to apply concepts from theory to case material.

Prerequisites: PSY 1100 and a course in the Psychology of Development.

Issues in Development: Counseling Adults

PSY 8020 ***3 cr.***

The course emphasizes adult development and counseling issues of adult life, especially as they relate to an individual's developmental progress. Students consider clients in light of their developmental history, which influences present behavior. The instruction presumes that helping clients gain greater understanding of these influences aids them in their efforts to solve problems and become more satisfied in their daily lives.

Prerequisites: PSY 1100 and a course in the Psychology of Development.

Issues in the Psychology of Death and Dying

PSY 8040 ***3 cr.***

This course explores theories, research, and literature related to death, grief, and loss. The student is encouraged to examine personal reactions to these dynamics, to relate them to ongoing development, and to apply them to the counseling relationship.

Prerequisite: PSY 1100. (offered every two years)

Theories of Personality: Applications to Counseling

PSY 8050 ***3 cr.***

This course surveys the major theories of personality. Emphasis is placed upon the student's ability to integrate the study of personality within the context of normal developmental issues and psychopathology.

Prerequisite: PSY 1100. (offered every two years)

Psychology of Women: Counseling Implications

PSY 8060 ***3 cr.***

This course examines how being female impacts the behavior and perception of women. A variety of topics are covered, including development of identity, hormonal determinants of behavior, sex differences in personality, women's roles in societies, and woman as a counseling client.

Prerequisite: PSY 1100. (offered every two years)

Divorce: Process and Issues

PSY 8090 ***3 cr.***

This course is designed for students interested in increasing their understanding of marital separation and divorce. Students review the effects of this action on children and parents as well as the changes divorce imposes on personal, interpersonal, and societal levels. The various stages each family member goes through coupled with developmental issues are discussed. Strategies for helping families "grow" through the experience are demonstrated, using individual and family therapy techniques as well as support group dynamics. Remarriage and the blended family are addressed, and current research in the area is reviewed.

Prerequisite: PSY 1100. (offered every two years)

Child Abuse and Neglect, and other Individual/Societal Dysfunctions

PSY 8100 ***3 cr.***

This course explores child abuse and neglect in the context of other societal problems such as violence, substance abuse, and legal and ethical dilemmas faced by the educator in schools today. Discussions and lectures include such topics as family systems theory and dysfunction, community and domestic violence, substance abuse, child welfare law, and justice/court systems. Further, the course is designed to teach the educator to respond to children and families in crisis, provide referrals, work as part of an interdisciplinary team, and take a proactive stance against child abuse and related problems.

Prerequisites: PSY 1100, PSY 2350, and a course in the Psychology of Development.

Sexual Abuse of Children and Adolescents

PSY 8120 ***3 cr.***

This course emphasizes the diagnosis and humanistic treatment of the victim and the perpetrator, as well as significant others in the sexual abuse of children and adolescents. The psychodynamics of each role are discussed with an exploration of a variety of treatment modes. Case studies and speakers are used to enhance students' learning. Affective as well as cognitive approaches are used. This course is geared toward the practitioner and potential practitioner or teacher. Prior completion of a course in child abuse and neglect, experience in protective services, or exposure to abuse/neglect situations is helpful.

Prerequisite: PSY 1100.

Psychopathology I: Diagnosis and Assessment

PSY 8130 ***3 cr.***

This course explores major categories of emotional and behavioral disturbance utilizing the DSM-IV diagnostic classification system. Case vignettes are used to provide students with practice in differential diagnosis using the DSM-IV. The course reviews the following for each category of psychopathology: essential features, associated features, diagnostic criteria, and multiaxial classification. Clinical interviewing and assessment is addressed, as well as legal and ethical issues related to assessment and diagnosis. Note: A field experience (25 hours minimum) is required for this course.

Prerequisites: PSY 1100, PSY 2350, and a course in the Psychology of Development.

Psychopathology II: Treatment Planning and Outcome

PSY 8132 ***3 cr.***

This course is an advanced graduate counseling psychology course, which assumes familiarity with patterns of emotional and behavioral disturbances and competency in utilizing the DSM-IV to determine differential diagnosis. In addition to discussing psychopathology and diagnosis, this course focuses on differential treatment planning and outcome effectiveness. Treatment planning examines various interventions, including psychopharmacology and modalities of categories of psychopathology. Students explore the role of the multidisciplinary team and the need for consultation and/or referral. Treatment termination indication is also covered.

Prerequisite: PSY 8130.

Psychopharmacology for Counselors

PSY 8135 ***3 cr.***

This course teaches counselors, residential specialists, and teachers how to collaborate with physicians to maximize the benefits of psychiatric medications for their clients. Students review the genetic and biological factors that shape personality and psychopathology. Particular emphasis is placed upon the use of psychiatric medications in the treatment of anxiety disorders, attention deficit disorder, sexual dysfunction, substance abuse, episodic rage, sleep disturbances, Tourette's syndrome, mood disorders, and schizophrenia. Other biological therapies are discussed, including the use of artificial sunlight for winter depression.

Prerequisites: PSY 1100, PSY 2350, a course in the Psychology of Development, or permission of Instructor. (offered every two years)

Alcohol Abuse and Other Addictive Disorders

PSY 8140 ***3 cr.***

The course is a survey of the use and abuse of alcohol and other commonly used psychoactive drugs. An understanding of the basic principles of pharmacology is reviewed along with the psychosocial correlates of substance abuse and other addictive disorders. The course provides a functional analytic framework for assessing addictive behaviors. Participants visit various substance abuse programs such as A.A., N.A., AL Anon, and an area detoxification program.

Prerequisites: PSY 1100, PSY 2350.

Intervention and Rehabilitation Services for Substance Abusers

PSY 8142 ***3 cr.***

This course gives the participant an overview of intervention and rehabilitation issues and the various systems that provide these services to substance abusers. The course considers the methods that counselors use to determine the level of care and the appropriate facilities that are most helpful to the substance abuser. In addition, the course considers the role of the criminal justice system in the rehabilitation of the substance abuser. Participants have the opportunity to learn by completing a twenty-five hour practicum in a substance abuse program. Part of this practicum includes on-campus group process supervision.

Prerequisite: PSY 8140. (offered every two years)

Impact of Alcohol Abuse and Other Addictive Disorders on Family Systems

PSY 8143 ***3 cr.***

This course focuses on the effects of alcohol abuse and other addictive disorders on the entire family system, including children of alcoholics. Systems theory as applied to families are reviewed. The effects of trans-generational patterns of alcohol abuse and other addictive disorders on family members (including the roles that are adopted) are examined. Self help programs, for example, A.A., Al Anon., N.A., A.C.O.A. and O.A., are explored.

Prerequisite: PSY 8140. (offered every two years)

Case Management in Substance Abuse Services

PSY 8144 ***3 cr.***

This course prepares students for working with difficult clients including those who have a substance abuse problem and a mental illness. Specific management issues such as medication, suicide risk, resistance, and denial are explored. The importance of case management and maintaining good relationships with the referral source and other components of the service delivery system is emphasized. Participants learn by completing a twenty-five hour practicum in a substance abuse program or a mental health agency that has a program for clients with dual diagnosis.

Prerequisite: PSY 8140. (offered every two years)

Counseling the Substance Abuser

PSY 8148 ***3 cr.***

The course offers participants an opportunity to become familiar with the techniques and strategies associated with successful treatment of the addicted individual. Participants receive instruction and supervised practice in counseling procedures and skills of working with the substance abuser in a variety of modalities (i.e. individually, groups, couples, and families). Intervention strategies, including techniques for working with difficult clients in groups, are presented.

Prerequisite: PSY 8140. (offered every two years)

Case Management and Treatment of Victims

PSY 8150 ***6 cr.***

This course helps the student develop skills in engaging, advocating for, and treating the victim of child abuse and neglect. Both the child victim and the adult survivor are considered. Students explore work done by case managers, victim witness advocates, and therapists as they help the victim on his/her road toward healing. Practitioners who currently work with victims are invited to share their expertise. Students are also aided in examining their own counter-transference issues around victimization.

Prerequisites: PSY 8100 and permission of C.P.I. (offered every two years)

Psychology and Treatment of Offending Behavior

PSY 8160 ***3 cr.***

In this course the perpetrator of child maltreatment is discussed with particular emphasis on the child sexual abuse perpetrator. Theories to explain offending behavior are examined. Students are asked to consider ethical dilemmas surrounding the reporting and punishment/treatment of sexual abusers. Legal statutes as they apply to offending behavior are discussed. Treatment of offenders in a variety of settings (eg. outpatient, inpatient, prison, residential treatment, etc.) are considered. Both adult and juvenile offenders are studied.

Prerequisites: PSY 8100, 8150 and permission of C.P.I. (offered every two years)

Family Treatment With Abusive/Neglectful Families

PSY 8170 ***3 cr.***

This course helps the student recognize the necessity of treating the entire family in abuse cases and develops skills in family therapy as it applies to abusive families. It is recommended that the student have completed a basic family therapy course. Note: A field experience (25 hours minimum) is required for this course.

Prerequisites: PSY 8100, PSY 8150, PSY 8160 and permission of C.P.I. (offered every two years)

Criminal Psychopathology

PSY 8172 ***3 cr.***

This course reviews the psychodynamics, as well as familial and ecological dynamics, of situational offenders, recidivist offenders, and sociopathic offenders. Students explore the interface between traditional notions of mental health, criminal behavior, and addiction theory. Students develop an understanding of the psychological impact of criminal behavior on the offender's family, the victim, the community, and the criminal justice system.

Prerequisites: PSY 1100, PSY 2350, SOC 1100, HMSV 1100 or permission of Instructor.

Systems, Laws, and Issues in Forensic Case Work

PSY 8174 ***3 cr.***

This course examines the philosophies and social/legal mandates governing the criminal justice, mental health, and social service systems as they affect criminal offenders. The challenges confronting the professionals in these systems are explored in relation to their legal options to service and manage behavior. Topics such as dangerousness, domestic violence, and involuntary treatment are considered.

Note: a field experience (25 hr. minimum) is required for this course.

Prerequisite: PSY 8172. (offered every two years)

Treatment Issues and Interventions in Forensic Case Work

PSY 8175 ***3 cr.***

This course reviews traditional and innovative therapeutic techniques and institutional considerations for treating offenders in outpatient, inpatient, and correctional settings. Students explore strategies for dealing with resistant clients, and they learn how to develop collaborative relationships with probation and parole officers. Discussions focus on legal, therapeutic, and systems issues in counseling victims, family members of offenders, and criminal justice professionals.

Note: a field experience (25 hr. minimum) is required for this course.

Prerequisite: PSY 8172. (offered every two years)

Mental Status Examination

PSY 8176 ***1 cr.***

This course helps students to develop a working knowledge of the technical language and content of reports from hospitals, schools, and court records. Student learn to evaluate a patient's current mood and thought processes and to judge their tendency towards suicide and public danger. The administering of a brief screening for possible neurological and physical problems is discussed. To benefit professionals outside the field of mental health, students master the translation of psychological jargon into understandable reports.

Prerequisite: PSY 2350 or PSY 8172.

Social and Cultural Foundations: Issues in Counseling

PSY 8190 ***3 cr.***

This course covers the multicultural and pluralistic trends as well as the characteristics and concerns of diverse groups. The attitude and behaviors based on such factors as age, gender, race, religious belief, physical disability, sexual orientation, ethnicity, language, culture, family pattern, socio-economic status, and intellectual ability are explored in the context of client population and a student's own background. Individual family and group counseling strategies for working with these diverse populations are examined while taking into consideration ethical issues.

Prerequisite: PSY 1100.

Principles of Guidance and Counseling

PSY 8200 ***3 cr.***

This course addresses the roles, activities, and problems of school counselors. Counselor relations with parents, students, teachers, administrators, and with other professionals in the pupil services field are examined. Techniques for effectively reaching and serving target populations in a school setting are explored.

Prerequisite: PSY 1100.

Occupational Information and Career Counseling

PSY 8210 ***3 cr.***

This course presents an overview of the nature of work in the technological society. Emphasis is placed on career development theories, vocational interest and educational admissions tests, and sources of occupational and educational information. Students learn about career counseling techniques and placement services in high schools, colleges, and adult career service agencies.

Note: a fieldwork experience (25 hours minimum) is required for this course.

Prerequisite: PSY 1100.

Lifestyles and Career Development

PSY 8215 ***3 cr.***

The purpose of this course is to familiarize students with work force issues and how they impact lifestyles and career development. It includes the examination of the global economy, technological changes, demographic shifts, ethics, and changes in the labor market. The interrelationships among work, family, and other life roles as well as the effects of diverse cultures, genders, and special populations are examined for their impact on career counseling and career development. Students are exposed to career decision making models; career counseling competencies; career development theory; corresponding assessment tools; and career, vocational and educational information resources and systems. Students also learn to facilitate the career development process over the lifespan.

Prerequisite: PSY 1100.

Counseling in the Elementary School

PSY 8220 ***3 cr.***

This course provides applications of counseling strategies as they relate to the development levels exhibited by elementary school students. Emphasis is placed on counseling methods and referral skills appropriate to working in school settings, with professional colleagues and parents.

Note: a fieldwork experience (25 hours minimum) is required for this course.

Prerequisite: PSY 1100.

Working with Individuals with Special Needs

PSY 8230 ***3 cr.***

The needs, levels of functioning, and contributions of individuals with special needs are examined. Educational issues and strategies for understanding and working with individuals with learning disabilities, physical disabilities, social emotional issues, medical needs, and mental disabilities are explored.

Prerequisites: PSY 1100, PSY 2350, and a course in the Psychology of Development.

Intervention Methods for School Adjustment Counselors

PSY 8240 ***3 cr.***

This course focuses on the implementation of effective strategies for working with children, families, schools, agencies, and communities. Building upon a theoretical and conceptual framework, the techniques of consultation, crisis-intervention, conflict resolution, inter-school/agency/community collaboration, and referrals are examined and applied. Didactic approaches, including case studies, role playing, and case presentations, are utilized.

Prerequisites: PSY 1100, PSY 2350 and a course in the Psychology of Development.

Psychological Testing and Assessment: Theory and Practice

PSY 8300 ***3 cr.***

This course is designed to give students a broad understanding of the theory and use of psychological testing and assessment. Methods of test evaluation, analysis, and interpretation, including psychometric statistics, standardization, correlation, validity, reliability, standard errors, and types of assessment scores are presented. Students examined standardized testing instruments used to measure human cognitive and affective factors, as well as environmental, performance, behavioral, and computer-assisted assessments. Age, gender, ethnicity, language, disability, cultural factors, and ethical considerations related to assessments and evaluation are explored. Note: a fieldwork experience (25 hours minimum) is required for this course.

Prerequisite: PSY 1100, PSY 2120 or PSY 5530.

Psychological Testing and Assessment: Individual Measurement of Intelligence

PSY 8310 ***3 cr.***

This course covers the history, development, and organization of the Wechsler and Stanford-Binet tests of intelligence. Considerable time and emphasis are placed on the administration and scoring of these tests and on the interpretation and reporting of results. A certificate is awarded upon successful completion of the course. Testing materials must be purchased during the course. Field experience required.

Prerequisites: PSY 1100, PSY 2120 or PSY 5530, PSY 8300.

Psychological Testing and Assessment: Projective Techniques

PSY 8320 ***3 cr.***

This course covers techniques of measuring human personality through human figure drawings, informal projective sentence completion tests, and apperception testing. Students develop skills in administering these techniques and integrate findings into psychological reports.

Prerequisites: PSY 1100, PSY 2120 or PSY 5530, PSY 8300.

Informal Clinical Assessment of Children and Adolescents

PSY 8330 ***3 cr.***

The emphasis of this course is on developing a conceptual framework for simultaneously observing multiple dimensions of child and adolescent functioning, then translating these observations into clinical inferences to derive clinical hypotheses and treatment recommendations from these inferences. This is an advanced course necessitating familiarity with abnormal behavior and diagnosis.

Prerequisite: PSY 1100, PSY 2350 and a course in the Psychology of Development. (offered every two years)

Counseling Techniques and Case Analysis: Individuals and Families

PSY 8500 ***6 cr.***

This course investigates the variety of counselor skills necessary in a helping relationship to move a client from an initial interview through the processes of information gathering, assessing, goal setting, and intervention (both individually and family system oriented) to establishing an effective termination. Students practice basic and aetive listening skills, such as paraphrasing, clarification, probing, and confrontation. They analyze and interpret client information and problem solve. Students also learn to develop an ecosystemic map of the client system, which includes a family or origin genogram and map of the relevant contextual levels impinging on the client system. Further, the course addresses such topics as crisis intervention, individual and group intervention strategies, couple and family assessment and interventions, and case conference techniques.

Note: a field experience (25 hour minimum) is required for this course.

Prerequisites: candidacy and twenty-one credits of phase II course work, including PSY 8010 or PSY 8020; and PSY 8130 or PSY 8200 and PSY 8210 or PSY 8220, and PSY 8300 or permission of Instructor.

Psychotherapeutic Techniques, Treatment and Modalities

PSY 8615 ***3 cr.***

This advanced course addresses, in depth, two or more dominant approaches to counseling, which may include: Rational Emotive/Cognitive, Insight-Oriented/ Interpersonal, Behavioral/Reality.

Prerequisites: PSY 1100, PSY 2350, PSY 7010, and PSY 7020. Students should check the semester's Course Bulletin to learn which approaches are included. (offered every two years)

Crisis Intervention for Counselors

PSY 8625 ***3 cr.***

This course examines a number of sophisticated and challenging obstacles counselors face in evaluating and working with individuals who are in crisis. Counselors are prepared to perform effective mental health assessments, develop appropriate emergency intervention treatment strategies, and develop appropriate discharge planning for crisis involved individuals. Topics covered include emergency psychiatric evaluations, mental status examinations, crisis intervention techniques, legal issues, managed care systems, discharge planning, etc. Role playing situations and written assignments are utilized.

Prerequisites: PSY 1100, PSY 2350, PSY 7010, and PSY 7020. (offered every two years)

Group Work and Leadership

PSY 8700 ***3 cr.***

This course examines utilizing group as a modality of intervention in working with adults and children. Theories and approaches to group work including support groups, psycho-educational groups, and therapy groups are covered. The course focuses on group leadership, group process and stages of group development, and group membership issues. Practical considerations in planning a group, screening and selections of group members, leading and/or co-leading a group, dealing with problems encountered in group work, and methods of evaluation of group effectiveness are examined.

Prerequisites: PSY 1100, PSY 2350, PSY 7010, PSY 7020, or permission of Instructor.

Family and Systems, Models and Interventions

PSY 8710 ***3 cr.***

This course focuses on family dynamics, personal and systematic change in the therapeutic relationship, and treatment/ intervention for various clinical issues related to children and families. Consideration is also given to theoretical models of development and psychopathology with regard to treatment planning, referrals, and consultation. Experiences are offered to learn appropriate professional and ethical strategies of family intervention.

Prerequisites: PSY 1100, PSY 2350, PSY 7010, PSY 7020, or permission of Instructor.

Helping Parents Help Their Children

PSY 8730 ***3 cr***

This course provides strategies and skills for workers who offer guidance, counseling, and/ or therapy to parents of children or adolescents. Parenting issues such as enhancing self-esteem, developing and accepting responsibility, adjusting to families in transition, dealing with issues related to divorce, blending families, disciplining, sharing quality time, and becoming meaningfully involved in a child's education are explored.

Prerequisites: PSY 1100, PSY 2350, PSY 7010, PSY 7020, or permission of Instructor. (offered every two years)

Systems Theory

PSY 8740 ***3 cr.***

This course begins by tracing the historical roots of Family Systems Therapy from its biological, anthropological, philosophical, and semantic origins by examining the works of von Bertalanffy, Kant, Locke, Bateson, and Korzybski. Emphasis is placed on the ways in which systems generate meanings and subsequent organizational structure across the following contexts: organizations, communities, schools, ethnic groups, and families.

Prerequisites: PSY 1100 and PSY 2350. (offered every two years)

Family Models, Organization, and Process I

PSY 8750 ***3 cr.***

Through an integration of experiential and cognitive learning approaches, this intensive process seminar builds a thorough and systematic understanding of the dynamics of family systems. The theoretical frameworks include those of Kantor-Constantine, structural, and systematic family therapy. This course emphasizes developmental processes in families, especially individuation in relation to family organization and style. It is organized as a weekly process seminar supplemented by all day workshops.

Prerequisites: PSY 1100, PSY 2350 and PSY 7005, or PSY 8710, or PSY 8740, or permission of A&FT Faculty. (offered every two years)

Family Models, Organization and Process II

PSY 8755 ***3 cr.***

This course continues the understanding of the dynamics of a family system through integrating the models of family learned in Family Models, Organization and Process I, with those models of Olson and Beavers. Emphasis is also given to constructivism and how this school of thought applies to family process.

Prerequisites: PSY 8750 or permission of A&FT Faculty. (offered every two years)

Advanced Systemic Intervention I

PSY 8770 ***3 cr.***

This course focuses on the process of family systems therapy by translating various systemic schools of thought into well defined treatment approaches. Students explore the therapeutic constraints of the model, the context, the therapist, and the family through role play, video, and live supervision.

Prerequisites: PSY 8755 or permission of A&FT Faculty. (offered every two years)

Advanced Systemic Intervention II

PSY 8780 ***3 cr.***

This course follows Advanced Systemic Intervention I with an increased emphasis on the therapist's personal "model for change" and its integration with the more traditional schools of family therapy. Students' "personal boundary profile" is identified and developed as it relates to students' preferred "model for change." Role play, video, and live supervision are used extensively.

Prerequisites: PSY 8770 or permission of A&FT Faculty. (offered every two years)

Independent Study

PSY 8910 ***1 cr.***
PSY 8920 ***3 cr.***
PSY 8930 ***6 cr.***

The content of these courses is designed by a student with the guidance of a faculty member to provide in-depth exposure to a topic for which no regular course is available. A plan of study must be submitted to the Behavioral Sciences Committee on Graduate Programs and the Dean of Graduate and Continuing Education during the semester preceding the term of the proposed course. Independent Study is available by permission of the Instructor only.

Prerequisites: PSY 1100 and as determined by Instructor.

Research and Program Evaluation

PSY 8950 ***3 cr.***

This course provides students with an overview of the design and methodology of social research and program evaluation as applied to mental health counseling and education. Topics of study include: critical analyzing and evaluating of research literature, experimental research design, survey research, program evaluation, treatment strategies evaluation, needs assessments, participant observational research, and ethics in research evaluation. Student learn how to plan, conduct, and document a research and/or evaluation study in a field setting.

Note: a field work experience (25 hours minimum) is required for this course.

Prerequisites: PSY 1100, PSY 2120 or PSY 5530.

Topics in Counseling

PSY 8971 ***1 cr.***
PSY 8972 ***3 cr.***
PSY 8973 ***6 cr.***

Course content varies from semester to semester, reflecting contemporary issues in the discipline and depending upon student and faculty interest.

Prerequisite: PSY 1100 and as determined by Instructor.

Internship in Counseling

PSY 9062 ***3 cr.***

Students are placed in agencies for supervised contact with clients. Each student maintains a case load, participates in the operation of his/her agency, and meets regularly with his/her on-site supervisor to discuss case planning and counseling techniques. Students meet at the college for group supervision and conferences, and to present one of his/her client cases in detail. The faculty supervisor visits each internship site during the semester to confer with students and their on-site supervisors. The Internship requires a minimum of 150 hours of on-site experience.

Note: students must consult with the Field Placement Coordinator one semester in advance of their expected placements to begin arrangements.

Prerequisites: candidacy and PSY 8500.

Internship in Forensic Case Work

PSY 9065 ***3 cr.***

This capstone experience allows the student to develop her/his skills in a forensic setting under the supervision of a forensic worker who has worked in the field of Forensic Case Work for a minimum of two years and has earned at least a Master's degree. Seminar classes meet on campus bi-weekly. The Internship requires a minimum of 150 hours of on-site experience.

Note: students must consult with the Field Placement Coordinator one semester in advance of their expected placements to begin arrangements.

Prerequisites: PSY 8100 or PSY 8120, PSY 8140, PSY 8172, PSY 8174, PSY 8175, and PSY 8176.

Internship in Child Protection

PSY 9070 ***6 cr.***

The Internship is the culminating experience in the student's acquisition of skills for working with victims, offenders, and families who abuse/neglect. The student is placed in an agency which treats one or more of the above. The student is supervised by an agency supervisor knowledgeable in child protection. In addition the student is expected to attend a bi-weekly seminar with the college field instructor. The Internship requires a minimum of 300 hours in the field.

Note: students must consult with the Field Placement Coordinator one semester in advance of their expected placements to begin arrangements.

Prerequisites: PSY 8100 or PSY 8120, PSY 8150, PSY 8160, PSY 8170 and permission of C.P.I.

Internship in Substance Abuse Services

PSY 9072 ***6 cr.***

This capstone experience allows the student to develop her/his skills in a licensed substance abuse services facility under on-site supervision. In addition, the student is expected to attend a bi-weekly seminar with the faculty seminar instructor. The Internship requires a minimum of 150 hours of on-site field experience.

Note: students must consult with the Field Placement Coordinator one semester in advance of their expected placements to begin arrangements.

Prerequisites: PSY 8140, PSY 8142, PSY 8143, PSY 8144, and PSY 8148.

Internship in Counseling

PSY 9075 ***6 cr.***

Students are placed in agencies for supervised contact with clients. Each student maintains a case load, participates in the operation of his/her agency, and meets regularly with his/her on-site supervisor to discuss case planning and counseling techniques. Students meet at the college for group supervision and conferences, and to present one of his/her client cases in detail. The faculty supervisor visits each Internship site during the semester to confer with students and their on-site supervisors. The Internship requires a minimum of 300 hours of on-site field experience.

Note: students must consult with the Field Placement Coordinator one semester in advance of their expected placements to begin arrangements.

Prerequisites: candidacy and PSY 8500, or PSY 8755 (for the Adolescent and Family Therapy Certificate).

Internship in School Counseling

PSY 9085 ***9 cr.***

The Internship is an intensive experience in an actual counseling setting. Students are placed in elementary or secondary school guidance offices, depending on the student's desired certification level (PreK-9 or 5-12). Each student maintains a regular case load (some short term, some long term), participates in regular guidance activities (e.g. core evaluations, articulation with other schools, scheduling), and meets weekly with his/her on-site supervisor. Students meet at the college with their college supervisor in a seminar setting (seven meetings in the fall, three or four in the spring). During these meetings students present cases and discuss issues as they arise in the Internship. The faculty supervisor visits each internship site during the semester to confer with students and their on-site supervisors. The Internship requires a minimum of 450 hours of on-site field experience.

Note: students must consult with the Field Placement Coordinator one semester in advance of their expected placements to begin arrangements.

Prerequisites: candidacy, all required courses in Phase II of the Social Guidance Counseling course of study and successful completion of the Communications and Literacy Test.

Internship in Marriage and Family Therapy

PSY 9087 ***12 cr.***

The Internship is an intensive experience in an actual counseling setting. Students are placed in agencies where they maintains a regular case load (some short term, some long term) and participate in regular Marriage and Family therapist activities. Students meet at the College with their college supervisor in a seminar setting (seven meetings in the fall, three or four in the spring). During these meetings students present cases and discuss issues as they arise in the Internship. The faculty supervisor visits each Internship site during the semester to confer with students and their on-site supervisors. The Internship requires a minimum of 600 hours of on-site field experience.

Note: students must consult with the Field Placement Coordinator one semester in advance of their expected placements to begin arrangements.

Prerequisites: candidacy, PSY 8500 and PSY 8755.

Internship in Mental Health Counseling

PSY 9090 ***12 cr.***

The Internship is an intensive experience in an actual counseling setting. Students are placed in agencies for supervised contact with clients. Each student maintains a case load, participates in the operation of the agency, and meets regularly with his/her on-site supervisor to discuss case planning and counseling techniques. Students meet at the college for group supervision and conferences, and to present one of his/her client cases in detail. The faculty supervisor visits each Internship site during the semester to confer with students and their on-site supervisors. The Internship requires a minimum of 600 hours of on-site field experience.

Note: students must consult with the Field Placement Coordinator one semester in advance of their expected placements to begin arrangements.

Prerequisites: candidacy and PSY 8500.

Internship in School Adjustment Counseling

PSY 9092 ***12 cr.***

The Internship is an intensive experience in an actual counseling setting. Students are placed in schools where they maintain a regular case load (some short term, some long term), participate in regular school adjustment counseling activities, and meet weekly with their on-site supervisor. Students meet at the College with their college supervisor in a seminar setting (seven meetings in the fall, three or four in the spring). During these meetings students present cases and discuss issues as they arise in the Internship. The faculty supervisor visits each Internship site during the semester to confer with students and their on-site supervisors. The Internship requires a minimum of 900 hours of on-site field experience.

Note: students must consult with the Field Placement Coordinator one semester in advance of their expected placements to begin arrangements.

Prerequisites: candidacy, all required courses in Phase II of the Social Adjustment Counseling course of study and successful completion of the Communications and Literacy Test.

Clinical Internship (School Guidance Counseling)

PSY 9095 ***6 cr.***

This Internship is available only to those who possess a School Guidance Counselor Provisional Certificate with Advanced Standing. Students will be placed in an elementary or secondary School Guidance Office, forty hours per week in one semester or twenty hours per week in two consecutive semesters, fall to spring, (600 total hours) depending on level of certification (N-9 or 5-12). Each student will maintain a regular case load and participate in other guidance and counseling related activities. In order to demonstrate clinical expertise, students will present a case to a joint meeting of student, cooperating practitioner and college supervisor. In order to demonstrate advanced understanding of professional expertise in School Guidance and counseling competencies, students will plan and carry out a project acceptable to both the cooperating practitioner and the college supervisor. The project must demonstrate an understanding of current trends in School Guidance and Counseling. Attendance at six seminars during the Internship is mandatory. College supervisors will visit students at their respective sites. Students already working in a guidance and counseling capacity may petition to use that site for Internship. Permission to do so will depend upon whether or not the counselor can meet the requirements of the Internship.

Note: Students must consult with the Field Placement Coordinator one semester in advance of their expected placements to begin arrangements for Internship

Prerequisite: Student must have Provisional Certificate in School Guidance Counseling with Advanced Standing.

Science Education

Independent Study

SCED 8001 ***1-6 cr.***

The Independent Study gives the student an opportunity for independent development of teaching techniques, laboratory procedures, written work, science curriculum, job-related document or of some other activity agreed upon by the student and the graduate faculty advisor. The final product of this study is a written or otherwise permanent documentation of the work accomplished.

Internship

SCED 8002 ***1-6 cr.***

The Internship provides laboratory or field experience in conjunction with established research programs at cooperating off-campus governmental, industrial, or private institutions. Supervision is shared by the institutional program directors and faculty from Fitchburg State College. A comprehensive paper describing the Internship activities is required upon completion of the experience.

Practicum in Science

SCED 8003 ***1-6 cr.***

The practicum provides student teaching experience in area schools and in the college campus school, designed to meet the state requirements for teacher certification.

Methods in Teaching Biology and Earth Science

SCED 9000 ***3 cr.***

The emphasis of the course is upon developing a working philosophy of science teaching for the master teacher. Students examine of the nature of science teaching in the context of modern learning theory and the impact these considerations have upon modern science teaching. The dynamics of classroom interaction in relation to the role "inquiry" has in that process is considered. In addition, teacher/student verbal and non-verbal behavior, attitudes, and evaluation techniques are explored.

The Modern Science Curriculum

SCED 9001 ***3 cr.***

The course provides an up-to-date survey of the science teaching curriculum materials available for use in schools, K-12. Each student develops a model science curriculum based on psychological and pedagogical principles.

Research in Science Education
SCED 9002 ***3 cr.***
Students undertake research designed to explore some phase of science teaching in detail. This study may include teaching methodology, curriculum development, and/or other activities agreed upon by the student and supervising research advisor. An element of experimentation must be included in the project. The final product is a written documentation of the research and results.

Science, Ethics, and Technology
SCED 9003 ***3 cr.***
The purpose of this course is to communicate the process of ethical reasoning. Students gain a better understanding of how cooperation between people concerned with the human application of science and the makers of public policy must become a working hypothesis. By examining current literature students uncover some of the facts and general principles of ethical reasoning and relate the short- and long-term consequences to moral positions.

Research in Science
SCED 9004 ***3 cr.***
Students undertake research in a specific field of science that involves an in-depth exploration of a well defined problem. The student must develop a hypothesis for the possible solution of the problem, then devise the experimental technique to test the hypothesis, and, ultimately conceive a logical conclusion based upon the data collected. The final product is a written documentation of the research and results. The study is completed under the supervision of graduate faculty.

Thesis
SCED 9010 ***6 cr.***
Students conduct a research project resulting in a thesis. Thesis develops under the guidance of a thesis advisor and committee.

Special Topics
SCED 9100 ***3 cr.***
Course content varies from semester to semester, reflecting contemporary issues in the discipline and depending upon student and faculty interest.
Note: many other science courses are offered from time to time. Some are cross-listed under Biology, Earth Science, and Chemistry. See specific course-listings for each semester for details. Other courses from Biology, Earth Science, or Chemistry may be used as electives or requirements.

Special Education

Early Intervention
SPED 6600 ***3 cr.***
This course focuses on assessing and working with children at risk for special needs or identified as having special needs. Current issues and concerns about infant stimulation and the role of parents and agencies in providing services are addressed.

Sign Language and Deafness
SPED 6700 ***3 cr.***
In this class students acquire a basic sign language vocabulary (SL) as used by the majority of deaf adults, including structure, grammatical principles, and vocabulary development. Issues in deaf education as well as deaf cultures and the needs of deaf individuals in the school and community are studied.

Topics in Special Education
SPED 7000
SPED 7001 ***1 cr.***
SPED 7002 ***2 cr.***
SPED 7003 ***3 cr.***
Course content varies from semester to semester, reflecting contemporary issues in Special Education and depending upon student and faculty interest.

Working with Individuals with Special Needs
SPED 7004 ***3 cr.***
Course content covers the characteristics and needs of children and adults with special needs. The total special education service delivery system; problems, issues, and controversies in the field; and relevant legislation are examined. The course is intended for regular educators, students beginning in special education and, it provides an update for experienced special educators and administrators.

Modifying and Adapting Curriculum: Math, Science, and Social Science
SPED 7020 ***3 cr.***
In this course students develop skills in observation techniques, learning style assessment, classroom organization, and lesson planning. This course is a prerequisite course for the Clinical Master's Degree and is required for students who wish to enter the clinical program but do not have teacher certification. Students complete a 25 hour Prepracticum (field-based) experience as part of the course.

Pedagogy in Reading/Language Arts
SPED 7025 ***3 cr.***
In this course students demonstrate an understanding of the curriculum areas of reading, language arts, mathematics, science, and social studies. They develop lesson plans which are implemented during a 25 hour Prepracticum (field-based) experience. This course is a prerequisite for the Clinical Master's Degree. It is required for students who wish to enter the clinical program but do not have teacher certification, or for students with secondary certification only.

Students with Special Needs: Issues in Assessment and Education of Bilingual and Non English Speaking Students
SPED 7110 ***3 cr.***
The purpose of this course is to provide both regular and special education teachers with the background information necessary to skillfully handle the referral and assessment process and work collaboratively with others in providing optimal service for the target population. Participants will explore their own experiences and belief systems to see how these impact their professional behavior.

Technology in Special Education
SPED 7250 ***3 cr.***
This course provides an overview of the application of computers to special education. The role of computers for diagnostic, instructional, and administrative purposes in special education settings is examined. Students evaluate existing hardware, software, and peripherals in terms of their applicability for individuals with special needs. Students utilize tool software (word processing, data base) and commercial software to develop and increase their computer skills.

Working with Families that Include Children with Disabilities
SPED 7300 ***3 cr.***
This course defines and discusses issues of families with one or more children with special needs. The focus is on the effects a child with disabilities has on the family system and on the roles of individuals in the family. Strategies for working effectively with families are emphasized.

Emotional Disturbances: Theory and Practice

SPED 7400 ***3 cr.***

This course is designed to examine the major theoretical frameworks that conceptualize and explain emotional disturbance. Students utilize these conceptual frameworks to focus on identification, assessment, and the development of effective treatment approaches for children.

Advanced Strategies for Teaching School-Age Children with Emotional and Behavioral Problems

SPED 7410 ***3 cr.***

This course builds upon theoretical perspectives of SPED 7400. Students explore their own responses to conflict and stress and identify and practice strategies suited for teaching troubled children and youth. In addition, students examine issues pertinent to the education of this population. *Prerequisite: SPED 7400.*

Inclusion of Students with Special Needs in Regular Education

SPED 7650 ***3 cr.***

Students will analyze barriers to inclusion and develop effective strategies for integration of individuals with special needs into all aspects of the community including home, school, and work setting. Students will define and redefine their role as professionals as it relates to their philosophy of integration.

The High School Environment— Challenges In Educating Students with Special Needs

SPED 7709 ***3 cr.***

The high school environment is undergoing dramatic change shaped by social, political, technological, methodological, and philosophical issues and controversies. Students will analyze the external forces pressing for redesign of administrative structure, delivery of education, the learning environment and how those changes impact students with special needs. Research-based methods for teaching to a wider range of abilities, and models for curriculum modification and staffing reallocations will be discussed.

Physical and Medical Aspects of Working with Children with Disabilities

SPED 7950 ***3 cr.***

The course provides an overview of the basic neurological and physiological systems of the body while exploring typical and atypical development. Disabilities common in infants, children and adolescents (e.g., seizures, cerebral palsy) are examined with a focus on educational adaptations and accommodations. Various models of service provision are contrasted. Collaborative strategies for working with students with physical disabilities and health impairments are developed.

Screening and Assessment of At-Risk Infants and Toddlers

SPED 8140 ***3 cr.***

The course describes the purpose, importance and limitations of early identification, screening, and evaluation of infants and toddlers at risk for development delays and disorders. Valid and reliable Department of Public Health (DPH), approved screening and evaluation tools will be reviewed and administered.

Behavioral Issues In Inclusive Classrooms

SPED 8180 ***3 cr.***

A framework is provided for thinking about and resolving behavioral issues teachers encounter in today's classrooms. Various theoretical approaches are presented. Teachers are required to implement strategies in their classrooms and report and discuss results.

Language Development, Differences and Disorders

SPED 8300 ***3 cr.***

This courses addresses normal development of receptive and expressive language in terms of phonology, morphology, syntax, semantics and pragmatics. It focuses on the language performance exhibited by different populations of children/adults with special needs. The language of bilingual-bicultural children and language disordered adolescents are addressed. Students develop an understanding of the principles and practices related to assessment and intervention for children with language disorders. Students assess language needs and plan appropriate strategies. Field experience (25 hours) required for testing and program planning.

Fieldwork (Intensive Special Educator)

SPED 8801 ***1 cr.***

This course provides students enrolled in the Clinical Master's Program who already hold Standard Certification in any area, or Provisional with Advanced Standing in Special Education (Intensive) with the opportunity to work with students who have intensive special needs in connection with Clinical Coursework I & II. Students are involved in schools 3-5 hours a week (minimum) as they implement assignments related to Clinical Coursework and they begin to develop skills in working with diverse learners.

Clinical Course Work I Intensive: Foundations in Assessment, Curriculum, and Program Development; Collaboration to Support Change

SPED 8814 ***6 cr.***

The philosophical underpinnings of the Clinical Master's Program: Intensive are identified in this course. The need for educational programs to be provided in inclusive settings is explored. Students examine curriculum development processes and models, as well as various theoretical approaches to assessment. The theoretical framework for analyzing behavior is examined. Various strategies for increasing appropriate behavior, decreasing inappropriate behavior, and teaching new behaviors are introduced. Students identify specific behaviors, analyze the context of those behaviors, design interventions, and monitor behavioral changes. Students learn supportive models of consultation for working with peers and parents and the associated skills of active livening, joint problem solving, giving and receiving feedback, and self evaluation. Semester-long collaboration projects offer students the opportunity to practice skills and receive feedback. Students review key special education legislation and analyze legal case studies.

Clinical Course Work II Intensive: Assessment, Curriculum, Strategies and Program Development in Functional Domains; Collaboration for Families and Advocacy

SPED 8824 ***6 cr.***

The course focuses on student application of program development and implementation strategies established in SPED 8814. Assessment strategies that relate specifically to the areas of community, domestic, vocational, and recreational skills are addressed. Students assess an individual with intensive special needs and develop an IEP. Students develop and implement additional behavioral change and instructional projects as well as practical quantitative and qualitative data collection strategies. The analysis of data is used to guide program modification. Students work collaboratively with a family that includes a child with intensive special needs. A study of area social service agencies is conducted and a resource directory is developed. Communication and collaboration skills learned in the previous semester continue to be developed and refined.

Clinical Course Work III Intensive: Assessment, Curriculum, and Strategies Re: Language, Physical and Medical Issues and Collaboration for the Educational Team

SPED 8834 ***6 cr.***

Students build on their knowledge of normal language development and language disabilities to assess and plan for students with severe language and communication limitations. They evaluate assessment tools and procedures for determining a student's language abilities and functional needs. Strategies for promoting language development are identified along with an examination of augmentative communication methods. Classroom implications of various physical and medical conditions are addressed. Appropriate feeding, positioning, and handling strategies are presented. Concerns regarding seizure disorders, cardiovascular problems, neuromuscular problems, etc., are addressed. Particular attention is given to using appropriate assessment techniques, and developing strategies to modify curriculum for the education of students with intensive communication, physical and/or medical needs in inclusive settings. Collaboration and communication skills learned in the previous semesters are applied within the educational team. Students learn how to work cooperatively and collaboratively as they function as a member of a team to resolve conflicts and to develop a collaborative IEP.

Clinical Course Work IV Intensive: Assessment, Curriculum Strategies for the Academic Areas; Transition from School to Work; Collaboration for Inclusion and Ethical Issues

SPED 8844 ***6 cr.***

In this course students address assessment and strategies that relate specifically to the areas of functional academics. Curriculum modification approaches relevant to inclusive settings are highlighted. Students assess an individual with intensive special needs and develop an IEP within the academic areas. A review is conducted of human services agency policies, individual transition planning strategies, and secondary work program designs for enhancing the opportunities of students with intensive special needs graduating from special education to adult life. Communication and collaboration skills learned in the first three semesters of the clinical program are applied to specific team projects. Students learn to motivate individuals for inclusion, to move them past resistance, and to help them resolve differences.

Practicum (Intensive Special Educator)

SPED 8861 ***6 cr.***

This course is the "student teaching" experience for students in the first year of the clinical program who do not have a prior certificate. Through a 150 hour field based experience, students are provided an opportunity to develop skills and demonstrate competency in the area of certification they are seeking. This course is one of the requirements for Provisional with Advanced Standing certification status.

Clinical Experience (Intensive Special Educator)

SPED 8862 ***6 cr.***

This course provides students in the second your of the clinical program with an opportunity to demonstrate skills they are learning in the clinical coursework as well as demonstrating competencies required for Standard Certification. The experience is designed to be a supportive one, with clinical supervisors providing students with guidance and support needed to enhance their development as teachers.

Early Intervention Practicum

SPED 8900 ***6 cr.***

This 150 hour field based experience provides students with a supervised opportunity to develop skills and demonstrate competencies necessary in early intervention settings. The practicum is designed to be a supportive experience, with supervisors providing the guidance and support needed to enhance students' development as early intervention specialists.

Fieldwork Credit (Special Educator)

SPED 8901 ***1 cr.***

This course provides students enrolled in the Clinical Master's Program who already hold Standard Certification in any area, or Provisional with Advanced Standing in Special Education with the opportunity to work with students who have special needs in connection with Clinical Coursework I and II. Students are involved in schools 3-5 hours a week (minimum) as they implement assignments related to Clinical Coursework and they begin to develop skills in working with diverse learners.

Clinical Course Work I: Teacher of Students with Special Needs: Assessment, Curriculum, Strategies in Reading Language Arts

SPED 8914 ***6 cr.***

Focus in on understanding of the processes for developing reading and language arts skills with students who have special needs. Alternative and traditional assessment strategies are addressed and applied to students with special needs in the clinical experience. Adaptation strategies, including the use of educational technology for teaching language arts and social studies is addressed. Concepts of measurement are studied to enable students to establish criteria for selecting appropriate assessment tools. Students evaluate assessment devices for technical quality.

Clinical Course Work II: Assessment, Curriculum and Strategies for Math/Science

SPED 8924 ***6 cr.***

Students learn current approaches for teaching math and science as well as appropriate strategies for modifying instruction when necessary. The standards of the National Council for the Teaching of Mathematics (NCTM) and the Massachusetts Curriculum Frameworks are presented. Specific computer programs are studied to demonstrate the integration of computers into units of study. Students with special needs are evaluated using formal and informal assessment tools, background information, and observation. Alternative assessment techniques are emphasized and applied in the clinical experience.

Clinical Course Work III: Assessment in Cognition/Achievement: Curriculum for Social Skills and Affective Development: Strategies for Behavior Management; Collaboration Skills for Inclusion

SPED 8934 ***6 cr.***

Graduate students evaluate students with special needs to determine cognitive skills, achievement in all areas and affective assessment. Curriculum and instructional strategy modifications that develop social skills and enhance affective development are a focus. Behavior management strategies for the classroom are addressed. Special attention is given to the diverse population of today's schools, especially to students at risk. Students learn collaborative models of consultation and effective communication skills for working with peers and parents. Semester long collaboration projects offer students opportunities to practice skills and receive feedback from a number of sources.

Clinical Course Work IV: Legal and Ethical Issues in Assessment: Curriculum Theory and Development; Transitions; Collaboration with Families, and the Educational Team

SPED 8944 ***6 cr.***

This course focuses on the legal and ethical considerations in assessment. The philosophical underpinnings of effective curriculum development are addressed. The need for educational programs to be provided in inclusive settings is explored and emphasized. Students examine and then develop a curriculum development and education process. The strategies strand focuses on reflective teaching and the strategies used to implement changes in schools relative to providing services to students with special needs. Students work collaboratively with a family that includes a child with special needs and other members of the professional team. Using person centered planning, a transition plan is developed for a student facing a transition in school.

Assessment Practices for Children with Special Needs

SPED 8950 ***3 cr.***

This course examines the use of formal and informal assessment devices as well as criterion referenced and non-referenced techniques. Students use various assessment strategies as they observe, analyze and interpret children's learning needs. Varied test instruments are reviewed and current issues in assessment are researched and discussed.

Practicum (Special Educator)

SPED 8961 ***6 cr.***

This course is the "student teaching" experience for students who do not have a prior certificate. Through a supervised field based experience students are provided an opportunity to develop skills and demonstrate competency in the area of certification they are seeking. This course is one of the requirements for Provisional with Advanced Standing certification status.

Clinical Experience (Special Educator)

SPED 8962 ***6 cr.***

This course provides student with an opportunity to demonstrate skills they are learning in the clinical coursework as well as demonstrating competencies required for Standard Certification. The experience is designed to be a supportive one, with clinical supervisors providing students with guidance and support needed to enhance their development as teachers.

Research in Special Education

SPED 9000 ***3 cr.***

In this course students learn specific skills necessary to read and interpret relevant research. Students write critiques of current articles and discuss alternative interpretations in class. Students also design and implement a research prospectus.

The Adult Learner

SPED 9010 ***3 cr.***

The course focuses on the nature of the developing adult as a learner. An understanding of how the adult learner processes experience, how learning is best structured, and how to provide feedback is emphasized. An extension of this focus includes an investigation of human relations, gender uniqueness, as well as relations within diverse populations as they impact the personal competence of the adult learner. Journals and readings are the basis for guided reflection and introspection.

Special Education and the Law

SPED 9120 ***3 cr***

Students will review policy and program regulations associated with Massachusetts Chapter 766, IDEA, Section 504 of the Rehabilitation Act, and Americans with Disabilities Act, as they apply to implementation of services in school-based settings. Precedent setting court decisions associated with those laws will also be examined. New legislation affecting educational practices in general, and therefore, affecting special education practices, will be explored. Students will have the opportunity to explore case studies and challenge their own ability to think critically about various situations.

Reading/Language Problems: Advanced

SPED 9130 ***3 cr.***

The focus of the course is on severe reading and written language problems. Dyslexia and related problems are analyzed in terms of theory and practice. Orton-Gillingham (phonology) and Project Read (comprehension) techniques are addressed. Field experience required.

Prerequisites: a reading and a language course or permission by the Instructor.

Woodcock/Johnson—Revised

SPED 9150 ***3 cr.***

This course focuses on the WJ-R. Students will demonstrate knowledge of theories of intellectual processing and skill in administering, scoring and interpreting the Cognitive and Achievement batteries of the WJ-R. An understanding of the early childhood, elementary or secondary school curriculum is necessary. Previous preparation in educational assessment and basic knowledge of statistical terminology related to norm-referenced testing are prerequisites. Student Profiles will be analyzed. A field-based component is required. Kits need to be obtained from the students' school systems.

Consultation and Collaboration Strategies

SPED 9200 ***3 cr.***

Students study theory and practice skills related to communication skills and processes as well as effective consultation strategies for working with school personnel. The process of collaborative consultation is practiced in class in addition to peer coaching and mentoring. Students learn how to evaluate their consultation skills and maintain themselves as a consultant.

Educational Strategies

SPED 9250 ***6 cr.***

Given the context of the adult learner and the process of implementing educational change studied in the previous courses in the CAGS sequence, the focus of this course is on effective and promising strategies which improve teaching and, thereby, learning for all children. Students become proficient at critiquing the design, analysis, and results of research to determine which strategies hold promise for improving teaching. Students also study current effective strategies in the field, such as cooperative learning, social interaction, peer mediation, teaching/learning styles, cross cultural competency, apprenticeship models, reciprocal teaching, and project approach. Lastly, students learn how to implement these strategies in their schools.

Internship and Reflective Analysis Seminar

SPED 9350 ***6 cr.***

This internship is designed to advance the development of self-directing educators who initiate, facilitate, participate in, and evaluate all aspects of educational practice. The Internship is a year-long experience which offers interns an opportunity to practice communication skills and apply collaborative skills with one or more colleagues in the field. The experience includes opportunities to plan, organize, and evaluate ways of improving instruction through the cooperative participation of school personnel and to implement educational change through such peer leadership structures and practices as mentoring, collaborative supervision, peer coaching, and team teaching. All work is carried out under the supervision of faculty. Ongoing internship projects are analyzed during biweekly seminars.

The Reflective Analysis Seminar serves as the capstone course for the CAGS program in Consultation and Peer Leadership: A Program for Teachers. Opportunities are provided which allow students to analyze their course work and their internship through an integrated and reflective process. Each session is accompanied by discussion formats with other students, by reading, and research. Students are encouraged to present "ideas" on the role of instructional leadership and its purpose in improving instruction. The instructor's role in the course is that of a facilitator.

Current Issues in Special Education

SPED 9400 ***3 cr.***

Students consider the context for special education and examine current and controversial issues such as inclusion, cost-effectiveness, educational reform, and grading. The course format gives students the opportunity to examine and debate these issues from multiple perspectives. Particular attention is given to the ways in which current issues and controversies affect classroom teachers and their students.

Independent Study

SPED 9500 ***3 cr.***

Students who wish to pursue an area of interest in Special Education that is not offered through course work may develop a program of study with a member of the graduate faculty. Faculty use a conference approach with the individual students, which places emphasis on critical thinking and sensitivity to the process of resolving issues. *Prerequisite: with permission of Advisor only.*

Administration of Special Education Programs

SPED 9800 ***3 cr.***

In this course emphasis is given to services, organization programs, personnel, and facilities as they relate to the needs of the child and adult with special needs. Students are expected to be well-versed in the effects of Federal and State mandates for special education services as a result of this course.

Technology Education

Computers in Industrial Technology

ITEC 7010 ***3 cr.***

This course familiarizes students with computers through presentation of selected hardware and software concepts. Opportunities for extensive hands-on practice with application programs are provided. CAD topics are also included.

Implementing Technology Education in Public Schools

ITEC 7020 ***3 cr.***

The course provides guidelines and experience in developing and implementing Technology Education course units in the area of communication, construction, manufacturing, power/energy, and transportation. Students experiment with and develop new units for classroom implementation.

Automated Drafting Systems

ITEC 7030 ***3 cr.***

This course is designed to teach the general concepts related to automated drafting with a special emphasis on technical drawing. Specialized applications of industrial practices for drafting are emphasized in this course. One semester of technical or mechanical drafting is a prerequisite.

Advanced Methods of Teaching at the Secondary Level I

ITEC 7500 ***3 cr.***

See BIOL 7500 for course description.

Advanced Methods of Teaching at the Secondary Level II

ITEC 7550 ***3 cr.***

This course is a continuation of the ITEC 7500.

School to Career Components Seminar

ITEC/PDEV 8050 ***1 cr.***

The seminar will provide current information and insight into the general structure of school to career programs, and the twenty required elements of a STC program. It will also introduce the relationship of STC with the SCANS competencies and Tech. Prep.

STWOA Federal Legislation and State Plan

ITEC/EDLM 8100 2 cr.

The course provides for the study, analysis and examples of the Federal School to Work Opportunities Act (STWOA) and the Massachusetts Plan for a comprehensive System of School to Work Transition regarding expectations of STC school programs.

School to Career in the Public School Curriculum

ITEC/EDUC 8250 3 cr.

The course provides the curriculum base for STC specialists to aid other teachers in the school to implement and include STC activities within their classes. The elements to be studied include the MA Common Core of Learning, the MA framework Common Chapters, the six discipline chapters of the MA Curriculum Framework, and the Eight aspects of the industry identified in the STWOA. Emphasis is on how to integrate STC activities and concepts into the school curriculum.

Developing STC Industry/Business/ Community Partnerships

ITEC/PDEV 8300 3 cr.

The course will study and examine the changing labor market and requirements, the MA Occupational Projections, and Occupational skill standards in relation to Goals 2000 and SCANs. With this background, strategies for creating and sustaining partnerships will be identified for work based and connecting activity components of STC.

Career Assessment , Mentoring, Portfolios and Coordination of work Based Learning Experiences

ITEC/PDEV 8350 3 cr.

The course identifies approaches and techniques used for student mentoring, job shadowing career interest assessment, and career portfolio development. The operation and responsibilities for work based learning experiences for students away from the school setting are examined.

Communications in Technology Education

ITEC 8400 3 cr.

The course provides exposure to the State framework area of communications using an integrated systems approach. The process of communication, approaches to technology in the laboratory, historical perspective, and social issues are addressed. Materials and programs for the Middle and High school level are integrated throughout the course and application of concepts found in the public school technology lab is stressed. The course includes lab work.

Power/Energy in Technology Education

ITEC 8500 3 cr.

The course is organized around an energy system point of view. Various sources are covered, and for each source the technologies involved in the production, transmission, utilization, and related environmental/social impacts are addressed. An effort to relate material for the public school lab/classroom according to the State organizational framework is integrated throughout the course. This course includes lab work.

Manufacturing in Technology Education

ITEC 8600 3 cr.

The course addresses the State framework area of manufacturing. The various systems of manufacturing used, the process involved in the production of goods and services, and the support areas for the manufacturing enterprise are covered. The integration of manufacturing principles in the Middle and High school lab environment is developed throughout the course. The course includes lab work.

Construction in Technology Education

ITEC 8700 3 cr.

The course develops outcomes related to the scientific principles, engineering concepts, and technical approaches to the areas of residential, commercial, and industrial construction as identified in the State organizational framework for Technology Education. The area of construction, the processes and materials used, the techniques performed, and the planning and development of structures are studied and adapted for lab and classroom use in the public schools. The course includes lab work.

Transportation in Technology Education

ITEC 8800 3 cr.

The course emphasizes the importance of transportation and identifies the modes used for people and goods in various environments. The structure, support, propulsion, guidance, control, and infrastructure systems for various forms of transportation are addressed. Materials adapted to the State framework for Technology Education for classroom and lab use are integrated throughout the course. The course includes lab work.

Curriculum Development for Technology Education

ITEC 8900 3 cr.

The course is designed for those seeking standard certification in Technology Education. Students learn to design courses and curriculum that include current trends in Technology Education. Several approaches for implementing problem solving, concept learning, habits of the mind, and integration of math/science concepts into the State framework areas of construction, communication, manufacturing, and power/energy in Technology Education are covered. The implementation of the State framework competencies for Technology are addressed.

School to Career Clinical Internship

ITEC/EDLM 9400 3 cr.

The semester long internship provides the opportunity to develop and implement components of a school to career program in the public school setting. Emphasis will be placed on establishing new components into current programs.

Clinical Internship in Technology Education

ITEC 9500 6 cr.

The internship is a clinical, capstone experience allowing full integration and application of content knowledge and pedagogical theory and practice. It should incorporate all standards specific to the discipline in which certification is sought as well as all common standards for classroom teachers (section 7.04). It must be a minimum of 400 clock hours or one full semester on site under the auspices of the college.

Professional Development Courses

The Professional Development Center and Graduate and Continuing Education through Extended Campus Programs offer both graduate and undergraduate courses to working professionals in schools, agencies and at work sites. Such courses are developed in collaboration with the requesting agency or business and the appropriate academic department. These courses are usually 6000 level courses and carry the prefix of PDEV or the prefix of the academic department, for example, EDUC, SPED, BUS, etc. Since these courses are responsive to the needs of professionals in the field they are designed as requested, so all courses offered may not be listed here. The following list represents those courses regularly offered.

Learning Styles

PDEV 6017 ***3 cr.***

Focuses on effective instructional strategies based on the use of learning/teaching styles, multiple intelligence and brain research. Participants are expected to design curriculum connecting theory and practice within their own fields of study.

Understanding Teaching I

EDUC 6033 ***3 cr.***

In this course students study current research related to classroom practice. They analyze their own classroom practice in light of current research, learn new strategies and practice them in the course and back in the classroom. Provides more in depth study of the parameters taught in the first year course and introduces the parameters of Discipline, Personal Relationship Building, Learning Styles/learning Experiences and School Culture.

Developing Literacy Skills

PDEV 6069 ***3 cr.***

This course is designed to familiarize teachers of at-risk students with the English Language Arts Curriculum Frameworks, and to provide them with instructional strategies and techniques and assessment tools for teaching standards-based curriculum, and developing standards-based units of study.

Responsive Classroom

PDEV 6078 ***3 cr.***

An approach to elementary and middle school classroom management and curriculum delivery developed by the Northeast Foundation for Children. It is designed to provide students with advanced knowledge in child development, social interactionist and constructionist theory as well as direct and practical application of that theory to current classrooms.

Internet Basics for Educators

PDEV 6091 ***3 cr.***

Provides an introduction to the "Information Superhighway", which interconnects universities, research centers, schools, corporations, and organizations around the world. Internet basics for educators provides a foundation of basic skills for navigating the Internet, for communicating with educators, for engaging students in Internetworking, for locating, evaluating, and repackaging information for instructional use. Students develop a "Pathfinder" for Internet resources they find in support of an educational interest of their choosing.

Understanding Teaching II

EDUC 6092 ***3 cr.***

This course is a vehicle for bringing to practitioners the ever-expanding knowledge base on teaching, built from the discoveries and contributions of practitioners themselves. All models of teaching and all useful techniques are included in this knowledge base and it is a framework that continues to expand to accommodate new learning.

Education Technology for Math and Science

PDEV 6157 ***3 cr.***

Designed to develop a cadre of teachers, two from each PALMS Demonstration School District, who understand technology and who can train other educators to use technology to enhance math and science education in line with the PALMS vision and goals.

Creating Books for and with Children

PDEV 6178 ***3 cr.***

Learn traditional and non-traditional book–making techniques, such as the concertina, Japanese outside-binding and "people" hooks. Focus on literary content as well as artistic construction. Review and discuss currently available picture books and create your own in hands-on sessions, as well as obtain an insider's view of the publishing process.

School, Family, and Student Partnerships in Education

PDEV 6229 ***3 cr.***

Course explores techniques and practices which can maximize the strengths and advantages of schools, families, and students. It will try to shift the current paradigm of education to one, which applies the principles of supporting and developing the student. Particular attention will be given to teacher, parent, and student partnership for learning how to help students to learn. While discussing theoretical and practical applications of such partnerships, functional local programs are designed to enhance the involvement of each of these groups in the educational process.

Advanced Educational Technology for Math and Science (for Palms Educational Technology Specialists)

PDEV 6242 ***3 cr.***

Designed to develop a cadre of teachers, two from each PALMS Demonstration School district, who understand technology and who can train other educators to use technology to enhance Math and Science education in line with the PALMS vision and goals.

Computer Technology for Educators

PDEV 6245 ***3 cr.***

Designed to introduce teachers to the use of Macintosh computers as an extension of their curriculum and as a classroom management tool. Develop competencies in a variety of computer applications. Training on hardware and software needs of a classroom /school.

Discipline with Dignity

PDEV 6285 ***3 cr.***

Equips educators with classroom skills, techniques and structure that enables them to spend less time dealing with behavioral problems and more time on positive interactions with students and instruction. This program for effective school and classroom management teaches responsible thinking, cooperation, mutual respect and shares decision-making.

Box It or Bag It Mathematics Level II

PDEV 6316 ***3 cr.***

Learn about organizing and implementing activity centered mathematics instruction for K-2 children. Experience a new course format and review the topics covered in Level I, assess growth as teachers of mathematics, and plan for future instruction. Level II participants use the new text, *Invitations to Problem Solving with Story Boxes* (for kindergarten teachers) or, *Posing and Solving Problems with Story Boxes* (for Gr. 1-2 teachers). Participants experience problem-solving at an adult level and explore mathematical challenges that might be extended to young children as they plan, organize, and create materials for mathematics instruction for their classroom.

Artist Book and Journal Making

PDEV 6326 ***3 cr.***

This is a workshop on journal making. Participants will learn the history and craft of "paste paper" and create beautiful hand bound journals, pamphlets and envelopes.

Teaching Writing

PDEV 6383 ***1 cr.***

Landmark School's five-step, sequential model for teaching writing includes brainstorming, organizing information (mapping and outlining), rough drafting, proofreading, and final drafting. This model is published in "The Landmark Method for Teaching Writing". These writing skills can be applied to paragraph, multiparagraph, or essay level writing for assignments across the curriculum. Current research related to the importance of oral rehearsal and visual organizers is explored.

Project Read: Linguistics

PDEV 6405 ***1 cr.***

This course presents Project Read, a mainstream language arts program that provides an alternative to traditional inductive instruction. Project Read has three strands: linguistic/phonology, reading comprehension, and written expression. A preventive rather than remedial program, it was developed in 1969 in response to the needs of a growing number of students who were not benefiting from the district's whole word meaning approach to teaching reading and writing. Topics covered will include: the concept of alternative instruction, a need for alternative instructional system, principles of a systematic curriculum, and multisensory techniques. Course participants learn a practical approach for teaching word attach skills (decoding and spelling) to students having difficulty learning to read and spell.

Managing Change and Conflict

PDEV 6431 ***3 cr.***

This course is designed to apply the theories and methods for effective self-management, facilitate more effective leadership in management of conflict and the change process, examine the meaning of change and the nature of conflict, and offer skills and strategies to analyze and manage change and conflict.

Beyond Stress Management: Integrating the Mind /Heart Connection to Claim the Potential of Our Intelligence

PDEV 6437 ***3 cr.***

Investigate theories that are visionary in their attempt to support claiming and accessing the potential of human intelligence. The course focuses on defining and examining the concepts of attention, intention, intellect vs. intelligence, and the mind/heart connections, the unified field, consciousness and awareness. Practical techniques to support paradigm shifts that access the brains fuller potential are explored and integrated.

Advanced Placement Teacher Training: Biology

PDEV 6472 ***3 cr.***

This course is a theme-oriented approach to the study of biology that emphasizes concepts and science as a process over knowledge of facts. This course covers the different components of an AP biology program including lectures, laboratories and exam.

Action Reaction Interaction

PDEV 6505 ***3 cr.***

Explores the many ways to enhance an individual's communications skills and problem-solving techniques by developing an awareness and understanding of self and others. Approaches to this course include coordinating the verbal and nonverbal massages found in one's graphic marks with the traits associated with each Anagram type. Additional methods include components of critical and creative thinking, Howard Gardner's theory of "Multiple Intelligence", and Daniel Goleman's concept of the "Emotional IQ."

Theories of Multiple Intelligence

PDEV 6506 ***3 cr.***

This course provides participants with a comprehensive understanding of contemporary multiple intelligence theories and their application to enhance and elevate students' diverse performance levels.

Advanced Cooperative Learning, K-12

PDEV 6537 ***3 cr.***

This course, through employing Cooperative Learning methods, is intended for teachers and administrators who are actively engaged in the process of implementing Cooperative Learning in their classrooms/schools. Each session will begin with thorough processing of the participants' implementation attempts: their successes and their obstacles to success. Solutions to problems will be brainstormed by the cooperative groups and current research on change theory will be examined. Between sessions, participants will be expected to attempt the suggested solutions in their classrooms and to document their efforts. Previously taught Cooperative Learning structures will be reviewed via actual cooperative activities, and new structures will be introduced and practiced. Self-selected teams of teachers from the same schools will co-plan cooperative lessons. The fundamentals of peer coaching will be introduces and practiced so that team may begin the process of observing each other.

Equity Issues in Education, K-12

PDEV 6538 ***3 cr.***

Equity issues of race, ethnicity, socio-economic status, disability and gender are examined in relation to key areas of classroom disparity, including instructional contact, grouping, classroom management, self-esteem, and evaluation of student performance. Teachers learn and practice ten research-based instructional strategies which aim to eliminate disparity in the classroom. Curriculum materials used by participants are examined for bias and various other curriculum resources which foster classroom equity are shared and examined.

Early Symptoms Intervention Techniques for Deviant Student Behavior, K-12

PDEV 6539 ***3 cr.***

Participants will learn early signs, causes, and intervention strategies for a myriad of anti-social behaviors common in today's schools. Psychological and physiological consequences of such behaviors will be examined as well as the educational and legal challenges faced by those dealing with today's youth. Guest speakers will include Assistant District Attorneys, State Police, other juvenile justice professionals, and school administrators. Practical solutions will be offered by the instructors and examined, practiced and evaluated by the participants.

Problem Solving, Assessment and Manipulatives K-8

PDEV 6543 ***3 cr.***

Participants become familiar with strategies and methodologies of the NCTM Standards, NCTM Professional Standards, NCTM Assessment Standards and the Curriculum Frameworks as they relate to problem solving, assessment and the use of Manipulatives. Manipulatives are used to explore concrete concepts involving: estimations, number sense and numeration; concepts of whole numbers, fractions and decimals; geometry and spatial sense; measurement; patterns and relationships; and algebra. Different types of assessment practices are explored.

Beyond Manipulatives

PDEV 6551 ***3 cr.***

This course is designed for classroom teachers in grades two through eight who are interested in starting or continuing to implement an activity-based mathematics program. This course shows teachers how to assess and manage students in an activity-based mathematics classroom.

Curriculum Development for Community Service

PDEV 6565 ***3 cr.***

This course is designed for K-12 educators and administrators interested in building classroom resources centered on service learning. Participants develop curriculum units that link to strands and standards in the Massachusetts State Curriculum Frameworks.

Advanced Assessment: A Closer Look

PDEV 6578 ***3 cr.***

This course is designed for classroom teachers who have experience with authentic assessment techniques in their classrooms. The course combines both the theoretical and practical aspects of assessment and will provide opportunities for participants to develop individual alternative assessment tasks for immediate use in the classroom.

Block Schedule & the Social Studies Classroom: A Blueprint for Success

PDEV 6596 ***3 cr.***

Designed for the social studies educator who is facing the prospect of teaching "Block Schedule" classes for the first time, or who feels the need for some further preparation to improve her/his block schedule abilities. While based on the latest educational research, theory, and methodology, emphasis is placed on practical application, effective use of time, hands-on & cooperative educational techniques, and real-time simulations.

Software Application and the Curriculum

PDEV 6610 ***3 cr.***

This course explores various software titles available to use as teaching tools in the curriculum. Students learn how to manipulate each piece of software and develop lesson plans. Participants investigate one research article on using technology in the classroom.

Incorporating French and Spanish Art in the Class

PDEV 6612 ***3 cr.***

A "layman's" look at the lives and work of well-known French artists of the 19th and 20th centuries as well as the lives and works of 20th century artists from Spain and Mexico. The term "layman" as used here means that the approach of this course is to demystify the subjects of art appreciation in order to make it accessible to all learners regardless of age or artistic ability. The artists' lives will be incorporated in this class as a way to understand their work and the times in which they lived.

The Structure of Language for Teachers of Reading

PDEV 6613 ***3 cr.***

Acquaints teachers with the structure of the language and with methods to teach reading and spelling effectively, through the use of multisensory and associative teaching techniques, to students who fail to learn by more traditional classroom methods. The course progresses in a sequential, systematic, hierarchical order so that the phonemes (sounds), the graphemes (symbols to represent sounds), and the patterns of English are covered. Not only phonics and elements of phonetics, but also morphological (rules for the addition of prefixes and suffixes) and syntactical (rules governing word order) structure are included.

Auditory Conceptualization a Key to Developing Literacy for All Ages

PDEV 6614 ***3 cr.***

The course will use published materials developed by Patricia and Charles Lindamood to identify with poorly developed phonemic awareness, the Lindamood Auditory Conceptualization (LAC) Test; and their program to develop auditory conceptual function: the Lindamood Phonemic Sequencing (LiPS) Program. The program integrates language with oral-motor-kinesthetic, auditory and visual processing to assist the developmental of an independent, self-correcting level of reading and spelling.

Project Read Reading Comprehension

PDEV 6618 ***2 cr.***

The Project Read curriculum is divided into Report Form (expository text) and Story Form (narrative text) written information. The teaching approach is direct concept instruction using multisensory strategies and materials. If teachers the process of analyzing the underlying structure of expository and narrative writing and is presented in a sequential, dependent order of concepts and skills. This process transfers to other curriculum areas to give the students a level of language independence. The curriculum is designed primary for Grade 4 through adult learners, however it can be modified for primary students.

Black Yankees, New England's Hidden Roots: Intellectual Traditions and the Evolution of Community, 1750-1910

PDEV 6619 ***3 cr.***

Using a variety of humanistic expression-speeches and writings of scholars and activists, slave narratives, poetry, fiction, music, and fine arts- the content illumines the ways in which African Americans, during the 17th-19th century New England influenced American thought, cultural expressions, and traditions of freedom and democracy. Covers themes such as the role of the black church, the strong but under-recognized influence of black women writers, activist and artist, economic life and work, the black abolitionist movement, and the pictorial representation of African Americans.

Leadership Program: Technology and Curriculum Integration

PDEV 6621 ***3 cr.***

Develop leadership roles in their district's efforts to use instructional technology to meet the expectations of the Massachusetts Curriculum Frameworks. Assists participating educators to develop a vision for effective technology and curriculum integration and implement a plan for reaching that vision in their districts.

Four Ancient River Valley Civilizations

PDEV 6625 ***3 cr.***

Introduces teachers to the ancient societies of China, Egypt/Nubia, the Indus River Valley, and Mesopotamia. In order to compare and contrast these ancient civilizations (both with each other and with modern civilizations), a thematic approach to teaching culture is utilized in the classroom. Archaeologists, historians, and experienced teachers provide participants with scholarly material and hands-on opportunities to get their students engaged in thinking about life in ancient civilizations.

Understanding Standards Based Curriculum

PDEV 6635 ***3 cr.***

Learn how to design standards-based units of study for your classroom. This course will focus on developing and implementing standards –based environment. Participants will have the opportunity to review exemplary math and science curricula. At the conclusion of this course, participants will have the knowledge needed to not only make their classroom more standards-based, but to provide leadership in their districts.

Integrating Internet Resources into Your Teaching

PDEV 6637 ***3 cr.***

Participants learn how to search for, explore and evaluate exemplary curriculum sites, school sites and educational research sites, and find ways to bring the many Internet resources now available into their classroom. Participants learn how easy it can be to create a Web Theme Page and inquiry-based WebQuest Page for classroom use using Claris Home Page 3.0, an html editor. Participants Web Quest Pages will be posted to a Web site to share with other teachers on the Internet (if participant grants permission).

Supporting the Curriculum Frameworks with Microsoft Office

PDEV 6648 ***3 cr.***

Focuses on developing strategies for designing instruction that is mapped to the Massachusetts Curriculum Frameworks and that takes advantage of the features of the newly released Microsoft Office 2000. The goal of the course is to examine sound pedagogical practice for using tools such as Word, Excel, and PowerPoint.

Earth Science for Primary and Secondary School Teachers

PDEV 6668 ***2 cr.***

Supports teachers in their efforts to become more competent and comfortable teaching ideas in earth science. Focuses on the rock cycle, plate tectonics, the earth in space and the interplay between the earth, ocean and atmosphere. Several field activities in both geology and meteorology.

Clariswork Make and Take: Technology in the Elementary Curriculum

PDEV 6802 ***3 cr.***

Use ClarisWorks to integrate technology into your elementary curriculum. Create books, games, research activities and writing projects. Adapt the instructor's original samples to your grade level or develop your own activities and projects for use in your classroom.

Advanced Placement: English Literature and Composition

PDEV 6812 ***3 cr.***

This workshop examines methods of teaching AP literature courses and provides multiple approaches for setting up AP classrooms. Teachers learn AP testing procedures, identifying the literacy skills and knowledge that students must master in order to achieve high AP scores.

Teaching Mathematics

PDEV 6826 ***1 cr.***

Math difficulties are explained in terms of language-based learning disabilities. Student learning styles are acknowledged through the development of strategies, which compensate for language syntax deficits, poor automatization skills, inaccurate estimation, and sequencing overload. As published in "The Landmark Method for Teaching Arithmetic," methods are demonstrated that ensure correct rehearsal and recall of basic facts using nonverbal cues such as Woodmark Numeric Icons. For long division, an innovative ladder chart that produced accurate multiples of a divisor is demonstrated. Specific visualization and diagramming activities are presented which assist the student in converting word problems to a nonverbal format.

Internet for Teachers and Librarians

PDEV 6848 ***3 cr.***

Instruction in connecting with the Internet, searching its resources, sending email, joining newsgroups, evaluating websites, training Gophers and other Net-rodents, developing CyberJourneys for classroom projects.

Math Magic: Making Sense of Numbers in Grades 3-6

PDEV 6849 ***3 cr.***

Explore mathematical strategies and activities that will help the children in your classroom become more confident in their ability to know, justify, and calculate math. In accordance with the state frameworks, a large emphasis of this course will be on writing in preparation for the MCAS testing. Students will return to their classrooms with suggested ready-to-use lesson guides and activities.

The Effective Teacher Part I

PDEV 6856 ***3 cr.***

This course focuses on the Practice of the Secondary Educator. It is designed for District Based Candidates who are preparing for roles as secondary school educators beginning. The course concentrates on these three areas of instruction: public school procedure, classroom management, and methods of teaching – including learning styles and multiple intelligence.

WebQuest
PDEV 6890 ***3 cr.***

Develop attractive web pages, locate useful information on the Web, work collaboratively with other teachers at remote sites, and evaluate complex achievement by your students. Educators create a web-based lesson that engages their students in higher order thinking and cooperative learning. The WebQuest model learned is applicable to a wide range of topics, goals, classroom environments and learners.

Using and Evaluating Online Projects
PDEV 6905 ***3 cr.***

With the advent and growth of school Internet connections, the ability for teachers to "get outside" the four walls of their classrooms has become possible and desirable. There is an unlimited source of cooperative projects available that can meet various classroom goals and objectives. This course will put students in touch with exemplary projects all over the world.

Integrating an Understanding of Motivation, Resilience, Teaching, and Learning Resources, Brain Research, and Preventative Discipline into Curriculum Designs for the Diverse Classroom
PDEV 6906 ***2 cr.***

Provides an overview of the self-esteem needs of students in the classroom with diverse learning needs. It also offers theoretical frameworks of brain research and curriculum development that are used to develop cogent and effective curriculum, aligned with the State or National Framework, for use in the classroom that have students with diverse learning needs. Participants explore the impact of the strategies covered in the course (motivation; resilience; technological teaching and learning resources; and preventative discipline) on classroom life. Participants engage in real-life, problem-solving strategies and focus on pedagogy, curriculum, and classroom management related to classroom that has students with diverse learning needs.

Teaching Study Skills
PDEV 6912 ***1 cr.***

Joan Sedita and other members of the Landmark School faculty review methods for teaching study skills, which can be used in study skills classes or incorporated into content class curriculum. The study skills model includes: organization skills (notebooks, assignments), recognizing and formulating main ideas, summarizing, paraphrasing, notetaking, textbook skills, and research/report writing.

Storytelling: An Integral Part of the Curriculum
PDEV 6915 ***3 cr.***

Addresses storytelling and its relationships to today's multicultural classroom. Students discuss the use of oral history projects and the use of folklore in the curriculum. Current theory on the relationship on oral and written language acquisition is reviewed.

Mathematics for the Next Millennium: Activities and Discussions
PDEV 6916 ***3 cr.***

A course designed for intermediate and middle school teachers to explore the mathematics reform movement of the 1990's, and its implications for the next millennium. Teachers learn current research and activities for use in their classroom.

Contemporary Realistic Fiction
PDEV 6974 ***3 cr.***

Examines and evaluates significant, contemporary young adult writers such as Walter Dean Myers, Cynthia Voigt, Karen Hesse, Paula Fox, Robert Cormier, Virginia Hamilton and Katherine Paterson. Questions to be explored include: What makes a good young adult book? What comprises a quality literature program? Discuss contemporary issues such as multicultural concerns, gender issues, censorship, family values, quality vs. popularity and technology.

Water: A Biology/Chemistry/Earth Sciences Update
PDEV 6988 ***3 cr.***

A course for high school and middle school science teachers that provides updates from experts in their fields, field trips, lab activities, and curriculum development, applies the Science & Technology MA Curriculum Frameworks through an interdisciplinary approach of three major science areas: biology, chemistry, and earth sciences, and creates innovative curricula, ideas, and activities for students that have real world relevance.

Thoreau's World and Ours
PDEV 6990 ***3 cr.***

This two-week summer seminar offers high school English, history and science teachers a multidisciplinary study of ecological, environmental, literary and cultural histories of Concord. Studying the interconnections of Concord's varied histories provides participants with models for approaching inquiry-based studies of their home communities. The course is held at the new Thoreau Institute in Walden Woods.

Faculty, Trustees, Administration

Full Time Faculty and Librarians

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★ Graduate Faculty Appointments
◆ Associate Graduate Faculty Appointments

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BA Bridgewater State University
MA University of Massachusetts
Associate Professor, McKay Campus School. 1989

DINOA, Robin O.
AB Davidson College
MMus University of Cincinnati
DMA University of Michigan
Associate Professor, Music. 1991

DUMAS, Robert
BS Salem State College
PhD University of Arizona
Assistant Professor, Nursing. 2000

EASTMAN, Jeffrey
BA Hiram College
MA Seton Hall University
MA University of Connecticut
Instructor, Languages. 1999

ERRISHI, Ali
BA University of Benghazi
MAS University of Benghazi
PhD Boston College
Professor, Philosophy and Geo/Physical Science. 1988

FAUST, Kimberly
BA University of Pennsylvania
MS University of North Carolina, Chapel Hill
PhD University of North Carolina, Chapel Hill
Assistant Professor, Sociology. 1998

FIORENTINO, Michael
BSEd Fitchburg State College
MEd Boston University
EdD University of Massachusetts at Amherst
Chairperson and Professor, Special Education. 1974

FISKE, Jane
BM New England Conservatory
MM New England Conservatory
DMA Boston University
Chairperson and Associate Professor, Music. 1989

FLINT, Petri
AB Harvard University
BFA Massachusetts College of Art
MFA School of the Museum of Fine Arts
Assistant Professor, Art. 1999

★ **FLIPPO, Rona F.**
BS Florida Atlantic University
MEd University of North Florida
EdS University of Florida
EdD University of Florida
Professor, Education. 1986

◆ **FLYNN, Katherine**
BSEd Fitchburg State Teachers College
MEd Fitchburg State Teachers College
CAGS University of Connecticut
Professor, Special Education. 1959

★ **FRANCIS, Elaine E.**
BSEd Fitchburg State College
MS Lesley College
EdD University of Massachusetts
Professor, and Graduate Program Chair, Special Education. 1978

FREOETTE, Sheila
BSEd Fitchburg State Teachers College
MS University of Massachusetts
EdD University of Massachusetts
Professor, Nursing. 1974

GAROULA, Robert J.
BSed Bridgewater State College
MA Clark University
PhD Clark University
Chairperson and Professor, Geo/Physical Sciences. 1973

GIM, Lisa
BA Georgetown University
MA University of California at Berkeley
PhD Brown University
Assistant Professor, English. 2000

★ **GIOVINO, Rosemarie**
BSEd Lowell State College
EdM Boston University
EdD Boston University
Professor, Special Education. 1972

★ **GIRLING, Paul**
AB Ottawa University
BD Andover Newton Theological School
STM Andover Newton Theological School
MA University of No. Colorado
EdD University of No. Colorado
Professor, Psychology. 1968

★ **GLOBIANA, Carol**
BA University of Chicago
PhD Washington University
Professor and Graduate Program Chair, Psychology. 1977

GOALD, Robert Stevens
BA University of Maryland
MA Antioch University
MFA Rockport College
Instructor, Communications/Media. 2000

GODIN, Jeff
BS Bridgewater State College
MS Bridgewater State College
Instructor, Exercise and Sport Science. 2000

GOLDMAN, Cheryl
BA University of Louisville
MS University of Connecticut
PhD University of Connecticut
Assistant Professor, Psychology. 2000

★ **GOROENSTEIN, Arnold**
BA University of Massachusetts
PhD Harvard University
Professor, English. 1989

GOVINOAN, Meledath
BSC University of Calicut
MSC University of Calicut
MS University of Kentucky
PhD University of Georgia
Associate Professor, Chemistry. 1996

GRAY, Patrice
BA University of Massachusetts, Amherst
MA Emory University
PhD Emory University
Associate Professor, English and Writing Across the Curriculum Coordinator. 2000

GRENACHE, Oavid, G.
BS North Adams State College
BA North Adams State College
PhD Worcester Polytechnic Institute
Assistant Professor,
Clinical Laboratory Sciences. 1994

GUTH, Lawrence R.
BS Michigan Technological University
MS University of Utah
PhD Rice University
Associate Professor,
Geo/Physical Science. 1993

★ **HANCOCK, John**
BS Ohio Northern University
MA Assumption College
CAGS Assumption College
PhD Professional School of Psychology
Chairperson and Associate Professor,
Psychology. 1992

★ **HARRELL, Sophia**
BSN Winston-Salem State College
MS Boston University
MA Assumption College
EdD University of Massachusetts
Chairperson and Professor, Nursing. 1970

HARRIS, Robert
BA Colgate University
MFA University of California
Assistant Professor, Communications/Media. 2000

HAYES, Patricia
BA Simmons College
MA Northeastern University
PhD Northeastern University
Associate Professor, Sociology. 1973

★ **HETZEL, Charles**
BA Beloit College
MS University of Wisconsin
PhD University of Wisconsin
Professor, Education. 1987

★ **HIGDON, Gerald**
AB Villa Madonna College
MA University of Kentucky
PhD Lehigh University
MBA Northeastern University
Chairperson and Associate Professor, Graduate Program Chair,
Mathematics. 1977

★ **HILL, Pamela**
BA Framingham State College
MAT Bridgewater State College
EdD Boston University
Assistant Professor, Education. 1998

★ **HOEY, Margaret T.**
BS Emory University
PhD University of North Carolina
Associate Professor, Biology. 1993

★ **HOGAN, Peter**
BA University of Wales, U.K.
PhD University of Bradford, U.K.
Professor, Psychology. 1982

HOOS, Gunther
BA Lawrence University
Assistant Professor,
Communications/Media. 1980

★ **HOWARD, Anne**
BS University of Connecticut
MEd Boston College
PhD Brandeis University
Associate Professor and Graduate Program Co-Chair, Special Education. 1992

HOWE, Randy
BS Fitchburg State College
MS Fitchburg State College
EdD Boston University
Assistant Professor, Communications/Media. 2000

JARAMILLO, Maria
BA Universidad del Valle
MA Syracuse University
PhD Syracuse University
Professor, Spanish. 1986

JEFFKO, Walter
BS University of Bridgeport
MA Fordham University
PhD Fordham University
Professor, Philosophy. 1970

JELLISON, James
BS Northeastern University
MEd Fitchburg State College
Associate Professor,
McKay Campus School. 1972

JDHNSDN, Gerald R.
BS University of Massachusetts
MS Purdue University
Associate Professor, Computer Science. 1979

KARBASIOUN, Keyvan
BA University of Kansas
MA University of Kansas
EDD University of Massachusetts
Assistant Professor, Languages. 2000

KAUL, Pushkar N.
BS Kashmir University
MS Aligarh University
PhD Boston College
Professor, Chemistry. 1985

KAUL, Sanjay
BS University of Jammu
MS University of Jammu
MS University of Pennsylvania
PhD Indian Institute of Technology
Associate Professor,
Industrial Technology. 1991

KELLNER, Lynne A.
BA City College of New York
MEd University of Massachusetts, Amherst
PhD University of Massachusetts, Amherst
Assistant Professor, Human Services. 1994

★ **KELLY, Nancy**
PhB Wayne State University
MAT Fitchburg State College
PhD University of Massachusetts
Associate Professor and MAT-Education Coordinator, English. 1992

★ **KEMPERS, Margot**
BA Brandeis University
MA Stanford University
PhD Brandeis University
Professor, Sociology. 1986

★ **KEOUGH, William**
AB Harvard University
MA Iowa University
MFA Iowa University
PhD University of Massachusetts
Professor, English. 1969

KIM, Kwahng
BS Chung-Ang University
MBA Chung-Ang University
MBA University of Bridgeport
PhD University of New Haven
Assistant Professor, Business Administration. 2000

★ **KING, Mary A.**
BSEd Worcester State College
MA Anna Maria College
CAGS Anna Maria College
EdD University of Massachusetts
Professor, Human Services. 1980

KOKERNAK, Robert
BS Worcester Polytechnic Institute
MS Stanford University
PhD Worcester Polytechnic Institute
Professor and Raytheon Program Manager,
Industrial Technology. 1974

Key
★ Graduate Faculty Appointments
◆ Associate Graduate Faculty Appointments

KOLB, Liana
AB Douglas College
BSEd Fitchburg State College
MS Simmons College
MEd Boston University
Assistant Professor,
McKay Campus School. 1971

KOURTONINA, Natalia
PhD Moscow State University
PhD University of Utrecht and University of Amsterdam
Assistant Professor, Compute Science. 1999

KRANE, Stanley
BS City College of New York
MS Michigan State University
PhD California Institute of Technology
Professor, Biology. 1975

KRASNER, Jon
BA Muehlenburg College
MFA Boston University
Assistant Professor, Communications/Media. 2000

LANDER, Frits
Academy Engineer
Engineering Academy of Denmark
Associate Professor, Computer Science. 1982

LAYTIN, Peter
BA University of Wisconsin
MA State University of New York at Buffalo
Professor, Communications/Media. 1977

LEBLANC, Linda
BS Bentley College
MS University of Rhode Island
Associate Librarian. 2000

LEONARD, Lori L.
AS Quinsigamond Community College
BS Worcester State College
MS Northeaster University
Instructor, Computer Science. 2000

LEVE, James
BA State University of New York, Fredonia
MPh Yale University
PhD Yale University
Assistant Professor, Music. 1999

LEVINE, Sara
BA Brandeis University
MS University of Massachusetts, Amherst
PhD University of Massachusetts, Amherst
Assistant Professor, Psychology. 2000

★ **LIEBERMAN, Benjamin**
BA Yale University
MA University of Chicago
PhD University of Chicago
Associate Professor, History. 1993

★ **LIGHT, Barry**
BA Lebanon Valley College
MA Louisiana State University
EdD Pennsylvania State University
Professor, Mathematics. 1973

LORING, Hilary
AB Smith College
MAT Wesleyan University
MA Brown University
PhD Brandeis University
Assistant Professor, Sociology. 2000

LU, Da-hong
Diploma, University of Science and Technology of Shanghai, China
PhD Wayne State University
Associate Professor, Chemistry. 1991

★ **LWAMUGIRA, Pirudas L.**
BA University of East Africa
MBA St. Joseph's University
PhD Temple University
Associate Professor, Economics. 1991

McALOON, Joseph
BA University of New Hampshire
MBA University of South Dakota
MSPA University of Massachusetts
Associate Professor,
Business Administration. 1984

★ **McANDREW, Claire**
BA Marywood College
MA Georgetown University
EdD Lehigh University
Associate Professor, Mathematics. 1983

★ **McCAFFREY, Marilyn**
B Ed Rhode Island College
MA Brown University
EdD Boston University
Professor and Graduate Program Chair, English. 1971

McELVAIN, Richard C.
BA Marquette University
MFA Boston University
Associate Professor, English/Theater. 1997

★ **McGUIRE, Robert**
BA St. John Fisher College
MS University of Kentucky
PhD University of Rochester School of Medicine and Dentistry
Graduate Program Chair and Professor, Computer Sciences. 1982

McKAY, Linda
BSN St. Anselm's College
MS Russell Sage
Associate Professor, Nursing. 1981

McKEON, John J.
ABA Worcester Junior College
BS Southern Illinois University
MS Southern Illinois University
Assistant Professor,
Business Administration. 1979

McSHEEHY, Bruce R.
AA Worcester Jr. College
BA American International College
MLS University of Rhode Island
MA Assumption College
Senior Librarian, Library. 1979

MAHADEV, Nadimpal
MS Indiana University
MS University of Waterloo
PhD University of Waterloo
Associate Professor, Computer Science. 1999

MALONEY, David
BS Worcester State College
MA Assumption College
CAGS Assumption College
EdD Clark University Professor,
Psychology. 1970

MANEY, Elizabeth
BSEd Boston University
MEd Fitchburg State College
Assistant Professor,
McKay Campus School. 1958

MAO, Kristina
BA California State University
MA California State University
PhD University of Arizona
Assistant Professor, Political Science, 1998

★ **MARTENS, Edward**
BS Massachusetts Institute of Technology
MS Massachusetts Institute of Technology
PhD Massachusetts Institute of Technology
Associate Professor,
Industrial Technology. 1971

★ **MARTYNIUK, Irene**
BA Kent State University
MA Kent State University
PhD University of South Carolina
Assistant Professor, English. 1996

★ **MAY, Anne**
BSEd Fitchburg State College
EdM Boston College
CAGS Boston College
EdD Boston University
Professor, Special Education. 1956

MAY, Barbara
BS Boston College
MEd Fitchburg State College
MS Boston University
Associate Professor, Nursing. 1974

MAY, Elizabeth
BSEd Fitchburg State Teachers College
MS Boston College
Associate Professor, Nursing. 1970

★ **MICCICHE, Pasquale**
BS Boston College
AB Boston College
MEd Boston College
MA University of Minnesota
PhD Boston University
Professor, History. 1969

★ **MILLER, George**
BA Eastern Michigan University
MA Eastern Michigan University
PhD University of Michigan
Professor, Education. 1972

★ **MILLER-JACOBS, Sandra**
BA Queens College
MEd Boston University
EdD Boston College
Professor, Special Education. 1973

MISSUD, Jean
BA Brown University
MA Clark University
MLS Rhode Island University
Librarian. 1999

MOORE, Jeanne
BS Millersville State College
Certificate, Marburg University, Germany
MA Tufts University
PhD Tufts University
Professor, French and German. 1970

MORGAN, Kelly C.
AA Casper College
BA Viterbo College
MFA Case Western Reserve University
Associate Professor, English/Theater. 1997

MORRISON, Francis D.
AB University of Massachusetts
JD Boston College
Assistant Professor,
Business Administration. 1979

★ **MRVICA, Ann R.**
BA Ryerson Polytechnical Institute
MEd Worcester State College
EdD University of Massachusetts
Associate Professor,
Communications/Media. 1983

★ **MUNSON, Wayne**
BFA University of Connecticut,
School of Fine Arts
MA University of Connecticut,
School of Fine Arts
PhD New York University
Chairperson and Professor,
Communications/Media. 1991

★ **MURRAY, Thomas**
BA Iona College
MA Harvard University
PhD Harvard University
Professor, English. 1986

NASTASEE-CARDER, Angela
BA West Chester State College
MA Ball State University
PhD Penn State University
Assistant Professor, English/Speech. 1999

NOLE, Barbara
BSEd Bridgewater State College
MSPE University of North Carolina
Assistant Professor, Physical Education. 1970

★ **NOMISHAN, Oaniel A.**
NCE University of Lagos
BS Morgan State University
EdD Indiana University of Pennsylvania
Associate Professor, Education. 1991

◆ **NOONAN, James**
BS Suffolk University
MBA Suffolk University
MSBE Suffolk University
Chairperson and Associate Professor,
Business Administration. 1981

NOSEK, Michael T.
BS University of Lowell
PhD Tufts University
Assistant Professor, Biology. 2000

NWANKWO, Jason
BS University of Nigeria
MS University of Wisconsin
PhD University of Wisconsin
Assistant Professor, Sociology. 1995

OBERMEYER-SIMMONS, Helen
BFA Stephens College
MFA Rochester Institute of Technology
Professor, Communications/Media. 1981

O'MALLEY, Alice T.
BA Anna Maria College
MA Clark University
PhD Clark University
Associate Professor, Biology. 1965

OUELLETTE, Janice A.
BSE Westfield State College
MLS SUNY Albany
Associate Librarian, Library. 1981

★ **PAUL, John J.**
BRE William Tyndale College
MA Trinity Evangelical Divinity School
MA University of Wisconsin
PhD University of Wisconsin
Associate Professor, History. 1991

PHELPS, Edson H.
BS Clark University
MEd Fitchburg State College
CAGS Fitchburg State College
Assistant Professor,
Industrial Technology. 1979

PLISHKIN, Sanford
BA Clark University
MA Boston University
Instructor, Early Childhood Education.
2000

POWERS, Barbara
BS University of North Carolina
MS Boston College
Assistant Professor, Nursing. 1974

PURCELL, Janette M.
AAS Ulster County Community College
BS University of Colorado at Boulder
PhD University of Colorado at Boulder
Professor, Business Administration. 1995

REEVES, Rene
AS Community Technical College
BA University of Connecticut
MA University of Wisconson
PhD University of Wisconson
Assistant Professor, History. 2000

ROBERTS, Charles
BA Goddard College
MFA Tufts University
Assistant Professor, Communications/Media.
1999

ROBINSON, Daniel
BS Fitchburg State College
PhD University of the Pacific
Professor, Chemistry. 1977

ROGUSKI, Wanda
BS Quinnipiac College
MS Long Island University
DA The Catholic University of America
Associate Professor,
Clinical Laboratory Sciences. 1990

ROUMAS, Marguerite
BS Columbia University
MA Columbia University
PhD Columbia University
Assistant Professor, English. 2000

★ **RUWE, Donelle**
BA Boise State University
MA Boise State University
PhD University of Notre Dame
Assistant Professor, English. 1996

SALMON, Judith
BS Tufts University
MA Rutgers University
Instructor, Mathematics. 2000

SCANNELL, Ann
BSN Villanova University
MSN Catholic University
ND Case Western Reserve University
Assistant Professor, Nursing. 1996

SCHILLING, Thomas, H
BS Fitchburg State College
ALM Harvard University
PhD University of Massachusetts
Assistant Professor, Psychology, 1999

SCHMIOT, Ooris
BA State University of New York at
Binghamton
MA New York University
PhD New York University
Assistant Professor, English. 1998

SCHONBECK, Harold
BS University of Connecticut
MBA Clark University CPA
Associate Professor,
Business Administration. 1977

SHAW, Elizabeth
BS Skidmore College
MS Boston University
Assistant Professor, Nursing. 1982

SHEEHAN, James
BS Boston University
EdM Boston University
Associate Professor,
Physical Education. 1973

SICKUL, Caryl
BA Hofstra College
MSE Queens College
MMT Antioch College
Professor, Physical Education. 1981

SIOES, Charles
BA Clemson University
MA Clemson University
PhD University of Massachusetts
Professor, Communications/Media. 1990

★ **SNYDER, Mark A.**
BS M.I.T.
MS Columbia University
PhD Yale University
Assistant Professor, Mathematics. 1993

SOLIN, John
BA Saint Johns University
MA Brandeis University
MEd Boston State College
Assistant Professor, Psychology. 1988

Key
★ Graduate Faculty Appointments
◆ Associate Graduate Faculty Appointments

★**SPENCER, Richard**
BA Alfred University
MA Alfred University
PhD State University of New York at Buffalo
Professor and Graduate Program Chair, Psychology. 1972

★**STOKES, Shari**
BA Oberlin College
MA Columbia University
MEd Columbia University
EdD Columbia University
Professor, Special Education. 1991

SUSKIND, Diana
BS State University of New York
MS Syracuse University
EdD University of Illinois
Associate Professor, Education. 1991

SZYMCZAK, Elizabeth G.
BS University of Rhode Island
MS Northeastern University
Assistant Professor,
Clinical Laboratory Sciences. 1987

TABOR, Luther G.
BA University of New Hampshire
MEd Colorado State University
PhD Colorado State University
Professor, Industrial Technology. 1985

TANGNEY, Janice
BN McGill University
MN Boston University
PhD Boston University
Assistant Professor, Nursing. 2000

★**TAPPLY, Robert**
BSEd Fitchburg State Teachers College
EdM Fitchburg State Teachers College
Associate Professor, English. 1966

THERRIEN, Steven P.
BSE Fitchburg State College
MNS Worcester Polytechnic Institute
Assistant Professor and Nypro Program Coordinator,
Industrial Technology. 1981

THOMAS, Edmund
BS John Carroll University
MA Kent State University
PhD Clark University
Professor, History. 1967

★**THOMAS, Howard**
BS State University of New York at Geneseo
MS Adelphi University
PhD Northeastern University
Professor, Biology. 1981

★**THOMAS, Teresa**
BS Fitchburg State College
MA Clark University
PhD Clark University
Assistant Professor, Social Sciences. 1998

TRIFILO, Richard
BA Fitchburg State College
BS University of Massachusetts
MS Boston College
Assistant Professor, Nursing. 1983

TURK, Michael
AB Princeton University
MA Harvard University
PhD Harvard University
Chairperson and Associate Professor, Economics. 1982

TURNBULL, Eleanor
BS Skidmore College
MS University of Colorado
PhD University of Massachusetts
Assistant Professor, Nursing. 1995

VALANEJAD, Esmail
BSC University of Birmingham (England)
PhD Princeton University
Professor, Geo/Physical Sciences. 1968

★**VOSTOK, Gary**
BS Clark University
MBA Babson College
CPA, CMA, CFM, Assistant Professor,
Business Administration. 1979

WADSWORTH, Susan
AB Colby College
MA Tufts University
MFA Cranbrook Academy of Art
Associate Professor, Art. 1992

WAGNER, A. Lynne
BS University of Massachusetts
MS University of Lowell
EdD University of Massachusetts
Associate Professor, Nursing. 1985

★**WALLEN, Andrea**
BSN San Francisco State University
MSN University of California
EdD University of Massachusetts
Professor and Graduate Program Chair, Nursing. 1977

WARMOUTH, Jeffrey
BA University of Michigan
MFA Tufts University
Assistant Professor, Communications/Media. 2000

WEIZER, Paul
BA Temple University
MA Temple University
PhD Temple University
Assistant Professor, Political Science. 1998

WELLENS, Charles H.
BS San Diego State University
MBA Bryant College
Associate Professor,
Business Administration. 1983

WELLMAN, Robert
BA University of California
MS Long Island University
PhD University of Connecticut
Assistant Professor, Behavioral Sciences. 1995

★**WIEGERSMA, Nancy**
BS University of Maryland
MA University of Maryland
PhD University of Maryland
Professor, Economics. 1979

★**WILLIAMS, Susan**
BA University of Denver
PhD University of Delaware
Assistant Professor and Graduate Program Chair, History. 1993

WORFOLK, Jean B.
BSN Medical College of Virginia
MS Western Connecticut State College
MS Boston University
EdD University of Massachusetts
Associate Professor, Nursing. 1985

WYATT, Monica
BA California State University at Fullerton
MS California State University at Fullerton
PhD University of Georgia
Assistant Professor, Elementary Education. 2000

★**YEE, Nancy**
BA Catholic University of America
MA Catholic University of America
PhD Boston University
Chairperson and Professor, English. 1981

YU, Jiang
BS University of Science and Technology of China
MS Western Michigan University
PhD Western Michigan University
Assistant Professor,
Geo/Physical Sciences. 1996

★**ZEKERIA, Abdulkeni**
BS University of Asmara
MS University of Wyoming
PhD Howard University
Associate Professor, Mathematics. 1987

★**ZIVIC, Louis**
BA Michigan State
MS Cornell University
EdD Vanderbilt University
Professor, Business Administration. 1989

★**ZOTTOLI, Robert**
BA Bowdoin College
MS University of New Hampshire
PhD University of New Hampshire
Professor, Biology. 1965

Part-Time Faculty

KRESSY, Jean
BS Columbia University
MS University of Massachusetts
Part-time Instructor, Nursing. 1973

LISTON, Gail
MSN Boston University
BSN Texas Christian University
Part-time Instructor, Nursing. 1977

MARIOLIS, Tara
BS Hartwick College
MS Boston University
Part-time Instructor, Nursing. 1992

MIZHIR, Judith
BS Boston University
MS Boston University
Part-time Instructor, Nursing. 1974

Clinical Faculty

CHAMPY, Arlene
BS University of Lowell
MS University of Lowell

CROTEAU, Theresa
Henry Heywood Memorial Hospital
BS Fitchburg State College

DIMEO, Carol
Cambridge Hospital
BS Pennsylvania State University

GORDON, Deborah Beth
Heywood Hospital
BS Tufts University
MD Tufts University

HOUDE, Carol
Emerson Hospital
MT Burbank Hospital

MARCH, Robert
Worcester School for Professional Crafts
BFA Rhode Island School of Design
MFA Rochester Institute of Technology, School for American Craftsmen

MILLER, Carlotta
Worcester School for Professional Crafts
MFA University of Massachusetts at Dartmouth

NELSON, Sarah
Worcester School for Professional Crafts
BFS Mankato State University
MFA University of Wisconsin, Madison

O'MALLEY, Thomas
Worcester School for Professional Crafts
BFA Alfred University
MFA Rhode Island School of Design

Adjunct Graduate Faculty

Membership on the Adjunct Graduate Faculty is open, by invitation, to qualified and competent experts, external to the Fitchburg State College faculty, who possess skills. education, and experience in academic and/or professional areas which complement the Graduate and the Associate Graduate Faculties, and who have had two successful department evaluations.

AHERNE, John
BS Boston State College
MEd Bridgewater State
CAGS Northeastern University
EdD University of Massachusetts, Amherst
Education Leadership and Management. 1998

ALLEY, Sharon
BS University of Utah
MS University of Utah
Visiting Lecturer, Geo/Physical Science. 1996

AMBURGEY, Leonard
BS Fitchburg State College
MEd Fitchburg State College
EdD University of Massachusetts at Amherst
Visiting Lecturer, Geo/Physical Science. 1995

BRADY, Kathryn
BS Fitchburg State College
MA University of Northern Colorado
Visiting Lecturer, Special Education. 1989

BOTHWELL, Ian
BA Andrews University
MA Loma Linda University, Riverside
EdD University of California Berkeley
Visiting Lecturer, Education. 1995

BOTHWELL, H., Roger
BA Andrews University
MAT Andrews University
PhD Drake University
Visiting Lecturer, Education. 1995

BOUVIER, David
BS Fitchburg State College
MEd Rhode Island College
MEd Fitchburg State College
Visiting Lecturer, Technology Education. 1995

COLEMAN, Steven
BA Fitchburg State College
PhD Cornell University
Visiting Lecturer, Psychology.

CONROY, Charles
BA Fordham University
MS Iona College
MS Manhattan College
EdD Columbia University
Visiting Lecturer, Educational Leadership and Management. 1988

CREEDON, Chandler
BA St. Anselm College
MA, CAGS, Anna Maria College
Visiting Lecturer, Psychology. 1989

CULVER, Henry
BS Worcester State College
MA Assumption College
EdD University of Massachusetts at Amherst
Visiting Lecturer, Psychology, 1994
and Criminal Justice, 1996.

OENIG, William
BS Siena College
MS Utah State University
PhD Utah State University
Visiting Lecturer, Geo/Physical Science. 1995

OUPREY-GUTIERREZ, Irene
BS Bridgewater State College
MEd California State
EdD University of Massachusetts at Amherst
Visiting Lecturer, Education. 1997

FRECHETTE, Stephen
BS Central New England College
MS Fitchburg State College
Visiting Lecturer, Computer Science. 1990

FURTAOO, Stephen
BA Bridgewater State College
MA Bridgewater State College
PhD LaSalle University
Visiting Lecturer, Educational Leadership.

GALLO, Melanie
BA University of Massachusetts
MEd Fitchburg State College
Visiting Lecturer, English. 1997

GARVIN, E. Arthur
AB Antiod College
MS Tulane University
PhD Washington University
Visiting Lecturer, Psychology. 1998

GAUMOND, John
McKay Campus School
BS, MEd, Worcester State College
MA, Syracuse University
Associate Professor, Education. 1969

GAUVIN, William
BS Fitchburg State College
MS Fitchburg State College
Visiting Lecturer, Computer Science. 1988

GUTIERREZ, Irene Ouprey
BS Bridgewater State College
MEd California State University
EdD University of Massachusetts, Amherst
Visiting Lecturer, Educational Leadership.

HANLEY, Mary Ann
BA College of St. Catherine
MEd California State College
EdD Boston University
Visiting Lecturer, Psychology. 1998

HARRIS, David Thomas, Sr.
BA Montclair State University
MA Glassboro State College
PhD University of Maryland
Visiting Lecturer, Educational Leadership.

IPPOLITO, Michael
BS New Haven State Teachers College
MA Fairfield University
EdD University of Bridgeport
Visiting Lecturer, Educational Leadership
and Management. 1995

JOHNSTON, Christine
BA Regis College
MAT Fitchburg State College
Visiting Lecturer, English.

LUZZETTI, Anthony
BA Trenton State College
MEd Lehigh University
EdD Lehigh University
Visiting Lecturer, Educational Leadership.

LUCCHESI, Peter
BS University of New Hampshire
MS Fitchburg State College
Visiting Lecturer, Computer Science. 1985

LAWRENCE, James
AB Central Michigan University
MA Boston College
Visiting Lecturer, Psychology.

MAOOEN, Barbara
BS Boston College
MS Boston College
EdD Northeaster University
Visiting Lecturer, Nursing. 1989

MARA, John
BS Fitchburg State College
MEd Fitchburg State College
CAGS Fitchburg State College
Education Leadership and Management. 1998

McCARTHY, John E.
BA Providence College
MEd Bridgewater State College
CAGS Boston University
Visiting Lecturer, Educational Leadership

McOERMOTT, James
BA College of the Holy Cross
MA Clark University
EdD Clark University
Visiting Lecturer, English. 1997

MEOIEROS, Sherry A.
BS Stonehill College
MEd Rhode Island College
CAGS Fitchburg State College
Visiting Lecturer, Educational Leadership

MAGUIRE, Russell
BA State University of New York at Buffalo
MA Northeastern University
Visiting Lecturer, Special Education. 1987

MCGUIRE, Ronald
BDIC in Music Psychology-UMASS
Amherst
MED Fitchburg State College
Visiting Lecturer, MAT Programs. 1995

MURRAY, Anne
BA Tufts University
MEd Fitchburg State College
EdD University of Massachusetts, Amherst

O'CONNELL, Denise
BS Fitchburg State College
MEd Fitchburg State College
EdD University of Massachusetts
Visiting Lecturer, Special Education. 1992

O'MALLEY, Kevin P.
BSEd Boston State College
MEd Suffolk University
EdD University of Massachusetts. 1990

PAWLOUSKI, Paul
BA Fitchburg State College
MEd West Virginia University
EdD West Virginia University
Visiting Lecturer, Technology Education. 1996

PREGOT, Michael
BA St. Francis College (NYC)
MAT Assumption College
MA Framingham State College
EdD Boston University
Education Leadership and Management. 1998
Visiting Lecturer, Educational Leadership
and Management. 1996

ROBBINS, Patricia
BS Washington State University
BA Eastern Washington State University
MEd Eastern Washington State University
MEd Central Washington State University
EdD University of San Francisco
Visiting Lecturer, Educational Leadership
and Management.

REED, Margaret
BS Maryhurst College
MA Framingham State College
EdD Clark University. 1990

ROSSNER, Albert
BS Fitchburg State College
MEd Bowling Green State University
Visiting Lecturer, Technology Education. 1996

RYAN, Carol
BS Fitchburg State College
MEd Fitchburg State College
Visiting Lecturer, Psychology.

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BS Stonehill College
MA Suffolk University
JD Southern New England School of Law
Visiting Lecturer, Educational Leadership

SEMERJIAN, Harry
BM Boston University College of Music
MA Boston University
EdD University of Massachusetts. 1960

SEMERJIAN, Helena
BS Fitchburg State College
MEd Boston University
MEd Fitchburg State College
Visiting Lecturer, Humanities.

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BS Worcester State College
MA Assumption College
Visiting Lecturer, English. 1992

SQUARCIA, Paul
BS Boston University
MEd University of New Hampshire
CAGS Boston University
EdD Boston College
Visiting Lecturer, Educational Leadership and Management. 1995

SNYER, Kristen, Esq.
BA College of the Holy Cross
JD Suffolk University Law
Visiting Lecturer, Educational Leadership and Management. 1994

TARDANICO, Anne
BS Fitchburg State College
MEd Fitchburg State College
Visiting Lecturer, Educational Leadership

THIBADEAU, Susan
BS Emmanuel College
MEd Rhode Island College
PhD University of Kansas. 1990

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BA Stonehill College
MEd Bridgewater State College
EdD Boston College
Educational Leadership and Management. 1998

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BSEd State University College, Genesco
MEd Boston College
EdD Boston University. 1993

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BS Creighton University
MS Fitchburg State College
Visiting Lecturer, Computer Science. 1995

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BA Brandeis University
MA Clark University
Visiting Lecturer, Psychology. 1997

WU, Alan
BSEE University of Tennessee at Knoxville
MSEE University of Tennessee at Knoxville
Visiting Lecturer, Computer Science. 1995

ZIDE, Elliot
BA Duke University
JD Boston University
Visiting Lecturer, Management. 1976

ZOLLO, Felix
BS Suffolk University
MEd University of Massachusetts
EdD Southeastern Nova University
Visiting Lecturer, Educational Leadership and Management. 1995

Adjunct Undergraduate Faculty

All Fitchburg State College Undergraduate Faculty members by virtue of their college appointment are eligible to teach in the Division of Continuing Education. In addition, membership on the Undergraduate Adjunct Faculty is open, by invitation, to qualified and competent experts, external to the Fitchburg State College faculty, who possess skills, education, and experience in academic and/or professional areas, and who have taught a minimum of eight undergraduate courses during the previous three academic years.

BAIL, Paul L.
BS University of Massachusetts
AM, PhD University of Michigan
Visiting Lecturer, Psychology. 1989

BERNAL, Leslie
AB San Jose State College
EdM, CAGS, EdD Boston University
Visiting Lecturer, Education. 1984

BROWNLEE, Charles
BS California State University
JD Boalt Hall School of Law
Visiting Lecturer,
Business Administration. 1988, and Criminal Justice, 1996.

BURNS, William
BA Lowell State College
MEd University of Lowell
Visiting Lecturer, Vocational Education. 1984

CONNELL, Beverly
BS Salem State College
MS Fitchburg State College
Visiting Lecturer,
Business Administration. 1994

CRAWLEY, John
BS Central Connecticut State University
MS Lesley College
JD New England School of Law
Visiting Lecturer,
Business Administration. 1990

DEPROSPO, Helen
BS, BA Clark University
MBA University of Massachusetts
Visiting Lecturer,
Business Administration. 1989

DZERKACZ, John
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MEd Boston College
Visiting Lecturer, Vocational Education. 1993

FRANTISKA, Joseph
BA Westfield State College
BS Fitchburg State College
MS Fitchburg State College
MBA Western New England College
Visiting Lecturer, Computer Science. 1990

GASKINS, Leonard
BA Central State College
MM Boston University
CAGS Boston State College
Visiting Lecturer, Humanities. 1989

GAUVIN, William

KALIA, Tejendra
BEd Banaras Hindu University
MEd McGill University
MBA Anna Maria College
Visiting Lecturer,
Business Administration. 1990

KELLEY, Timothy
BA Holy Cross College
MS University of Lowell
Visiting Lecturer, Mathematics. 1986

KINNEY, Donald
BET Central New England College
MBA Anna Maria College
Visiting Lecturer,
Business Administration. 1989

L'HEUREUX, Michael
BA Assumption College
MA Western Kentucky University
Visiting Lecturer, Geo/Physical Sciences. 1989

LONGEY, Suzanne
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Visiting Lecturer, Humanities. 1992

LORING, Hillary
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MAT Wesleyan University
MA Brandeis University
PhD Brandeis University

MATALKA, Edward
BS Rensselaer Polytechnic Institute
MS, PhD University of Florida
Visiting Lecturer, Psychology. 1989

OLSON, Anthony
BS Fitchburg State College
MBA Rivier College
Visiting Lecturer,
Business Administration. 1989

PANAGIOTES, Steven
BA Fitchburg State College
JD Vermont Law School
Visiting Lecturer,
Business Administration. 1989

PEACH, Robert
BS, MEd Salem State College
Visiting Lecturer, Vocational Education. 1992

QUINN, Dennis
BA Worcester State College
MA Assumption College
PhD University of Massachusetts at Amherst
Visiting Lecturer, English. 1987

SCAPPARONE, Renee
AA Mount Wachusett Community College
BS Fitchburg State College
MBA Anna Maria College
Visiting Lecturer,
Business Administration. 1990

TOMPKINS, Elbert L.
BA West Chester State College
MA, EdD, Columbia University
Visiting Lecturer,
Business Administration. 1984
Communications/Media. 1998

TRIPP, Gary
BS, BA Nichols College
MA Pennsylvania State University
Visiting Lecturer, Economics. 1984

ZIDE, Elliot
BA Duke University
JD Boston University
Visiting Lecturer,
Business Administration. 1976

Professors Emeriti

ANTILLA, Faith
Professor Emerita of Library

ARNOLD, Lawrence
Professor Emeritus of History

ANGELINI, Joseph A.
CAGS Professor Emeritus of Mathematics

BANNON, Lillian
MA Professor Emerita of Nursing

BESNIA, Howard J.
MFA Professor Emeritus of Industrial Technology

BOWERS, William A.
EdD Professor Emeritus of Communications/ Media

BROWNING, Grainger
PhD Professor Emeritus of Sociology

BURKE, John
PhD Professor Emeritus of Foreign Languages

CARPENTER, Joseph
MEd Professor Emeritus of Industrial Technology

CARSON, Norman
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CASEY, Elizabeth Ross
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CASEY, William
MS Professor Emeritus of Library

CONDIKE, George
PhD Professor Emeritus of Chemistry

CONDON, Richard
EdM Professor Emeritus of Mathematics

COX, Catherine
AM Professor Emerita of Geography

CROWLEY, Harry L.
EdD Professor Emeritus of Behavioral Science

DECESARE, Richard A.
PhD Professor Emeritus of Philosophy

DEAN, Veva K.
PhD Professor Emerita of Geography

DRISCOLL, Edward F.
PhD Professor Emeritus of Industrial Arts

DRISCOLL, Rita O.
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DUFAULT, John
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FARIAS, Joseph C.
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FITZGIBBON, William H.
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FREDETTE, Norman
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FRITZ, Robert
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GAUMOND, John
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GOLDMAN, William J.
EdD Professor Emeritus of Special Education

GRABAR, Terry
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GREEN, Anne
MEd Professor Emerita of Elementary Education

GREEN, Phyllis H.
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GUINDON, Francis X.
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HANLEY, Mary Ann
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HARROD, Walter F.
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MS Professor Emerita of Nursing

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MA Professor Emeritus of English

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EdM Professor Emeritus of Education

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MEd Professor Emeritus of Counseling

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ThD Professor Emeritus of Sociology

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MEd, CAGS Professor Emeritus of Industrial Technology

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PhD Professor Emeritus of History

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MURPHY, George
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ROACHE, Mary L.
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BA Winthrop University
MSW University of South Carolina, Columbia
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MS Educational Fellowship
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BS Fitchburg State College. 1997

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BS Bentley College
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Certificates: Main Photographic School, Nikon School Seminar. 1977

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BA Mount St. Mary College
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BS State University of New York at Cortland
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BS Boston-Bouve College
BS Northeastern University. 1990

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BS Bridgewater State College. 1999

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Director, Health Services
BS Tufts University
BSN Salem State College
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BS St. Anselms College
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Finance

MICHAEL T. RIVARO
Vice President for Finance and Treasurer
AA Worcester Junior College
BS Boston University
MA Anna Maria College. 1966

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Comptroller
AA Mount Wachusett Community College.
BS Fitchburg State College. 1972

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Staff Assistant, Treasurer's Office
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BS Fitchburg State College. 1999

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SHANNON SHATOS
Director, Payroll
BA Assumption College. 2000

Advancement

OANIEL S. FLYNN
Vice President for Advancement
AB Assumption College. 1978

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Director of Public Relations
BA Providence College. 1985

OONALO G. LIGHTFOOT
Director of Development
BA Washington and Jefferson College. 1997

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Director of Annual Giving
BA UMass-Lowell
MS Fitchburg State College. 1995

MARY CHAPIN OURLING
Coordinator, Cultural Affairs
BA Keene State
MEd Fitchburg State College. 1995

CANOACE A. THIERRY
Director, Alumni Affairs
BA Castleton State College
EdM Harvard University. 1996

Facilities

STEVEN LANCIANI
Vice President, Facilities Management
BS Lowell Technological Institute. 1983

ARTHUR W. TRENOWETH
Director, Facilities
AA Northshore Community College
BS Salem State College. 1982

RONALO LEBLANC
Staff Assistant, Facilities. 1985

HEIDE MESSING
Staff Assistant, Planning and Design
BS Fitchburg State College. 1986

President Emeritus

VINCENT J. MARA
President, 1976-1995
BSEd Worcester State College
EdM Worcester State College
PhD University of Connecticut

Academic Glossary and Index

Academic Glossary

Advanced Placement Credit
AP credit is given to students who score three or higher on the Advanced Placement Examinations in Biology, Advanced Placement Science A, English Composition and English Literature, English Language and Composition, any of the foreign languages, Calculus AB or BC exams, U.S. History, European History, Psychology, and American Government and Politics. Contact the Registrar for the credits assigned.

Baccalaureate
The Bachelor's Degree; traditional first step on the ladder of higher education. It is characterized by a four year program which blends courses aimed at promoting the acquisition of broad knowledge through a solid foundation in the Liberal Arts and Sciences as well as courses designed to give depth of understanding in the major field.

Carnegie Unit
The unit of work expected of students for each college credit. The college expects students to spend 45 hours of work for each credit. The most common break down for one credit is one hour of class work and two hours of homework for fifteen weeks each semester. A three-credit course demands nine hours of work each week.

CLEP
The College Level Examination Program by which up to 60 semester hours of credit may be earned towards your degree. Contact Career Services for specific details.

Credits
Arithmetic representation of the value of completed course work towards the degree requirements. One classroom hour and two hours of homework for the nominal fifteen-week semester usually counts for one credit. As the usual course responsibility requires three classroom hours per week, per semester, and six hours of work per week outside the classroom, the normal yield per course is three credits. Tradition and practice in the case of laboratory, studio, shop, and other practica awards proportional credit for hours of attendance.

Department
An administrative subdivision of the faculty. Sometimes the department is identical with a discipline category such as English or Mathematics. Departments such as Behavioral Sciences, Humanities, and Social Sciences represent an association of faculty members of related disciplines.

Electives
Those course selections by the candidate which are not predetermined by graduation, major, or minor requirements.

Liberal Arts and Sciences
Befitting the Baccalaureate tradition and current practice, the Fitchburg State College candidate is required to complete a minimum of 60 credits in a college. For details, see "Liberal Arts and Sciences Program."

Major
That structured experience in an academic field which constitutes the candidate's specialization. All degree programs require a major. As considerable variation exists as to prerequisites and total credits, the candidate must carefully study the structure of the major of her/his choice. For details of major requirements, see "Courses and Programs."

Minor
That structured experience in a related discipline/field which is recognized by the major department as supportive of the candidate's specialization. Minors are defined by the Academic Department offering them. As considerable variation in requirements exist, the candidate should study carefully the minor offerings, see "Courses and Programs."

Prerequisite
Those courses which must be satisfactorily completed before admission to certain other courses. Prerequisite courses are listed in the course description of the course requiring them. Again, see "Courses and Programs."

Program
That construct of Liberal Arts and Sciences, major, minor, and/or professional courses which satisfies the requirements for a particular degree.

Self-Help
Self-Help is in the form of loans and work.

Track
That subdivision of academic programs which constitutes a unit of professional competence. Suggestive of the complexity of identifications involved in only one department, consider the example of Business Administration. This program includes tracks in Accounting, Management, and Marketing. The candidate should clarify with his/her advisor and major department the track which he/she is interested in pursuing.

Waiver of Regulations
Recognizing the inappropriateness of rigidity in endeavors to promote its goals, the college provides for waiver procedure relative to its baccalaureate rules, regulations, and programs. All petitions for waiver of regulations begin with the Office of the Dean of Undergraduate Studies if they involve undergraduate requirements and the Office of the Dean of Graduate Studies for graduate requirements. The student should note that reasons for waiver must be as exceptional as the grant.

Index

Key

UG Disciplines offered on an undergraduate basis only
G Disciplines offered on a graduate basis only
T Programs offered as a track within a degree program
C Offered as a certificate program
M Offered only an undergraduate minor

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